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FARM NEWS

May the New Year Bring You Peace and Prosperity

JANUARY Springfield, Ohio 1915

A Middle-West Feed Lot in January

See Page 8 For Our Liberal Rewards For Reading This Issue Thoroughly

RUN THIS ENGINE for 30 DAYS FREE

Detroit Kerosene and Gasoline engine sent YOU on 30 days FREE TRIAL; guaranteed 10 years. Economical horse power, lowest prices; farmer agents wanted everywhere. Engine operates on gasoline, kerosene, alcohol, distillate or naptha. Saws wood, grinds feed, churns, pumps, separates, makes light any job around the farm. Only 5 moving parts, no cams, gears, sprockets, etc. Send for "Common Sense Power Book."

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503

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Express Prepaid $2.75

Pants cut in the latest style. Made-to-your individual measure. Fit, workmanship and wear guaranteed.

No Extra Charge for peg tops, no matter how extreme you order them.

Agents Wanted

A good live hustler in every town to take orders for our celebrated made-to-measure clothes. Samples of all the latest materials FREE.

We Pay Big Money to our agents everywhere. Turn your spare time into cash by taking orders for our stylish clothes. Write today for beautiful FREE outfit.

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Many earn $30 to $60 every week demonstrating our 1916 Model Steel Automatic Handi-Tool. Lifting and Pulling Jack, Wire Stretcher, Splicer and Mender, Post and Stump Puller, Tire Tightener, Cable Maker, Press, Vise, Hoist, Wrench, etc. Operates automatically. Has power of 40 men. Guaranteed for life. Spare time or permanent work. Demonstrator loaned. Credit given. Write for factory agency offer.

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250 Candle Power—3 hours for 1 cent. Decorated China Shade furnished free with each lamp. Beautiful, artistic, the best and handiest lamp or office lamp ever invented. Also 500 other styles of gasoline and kerosene lamps. AGENTS WANTED. A permanent, steady position at good pay to right parties. NATIONAL STAMPING & ELECTRIC WORKS, 416-18-20 S. Clinton Street - CHICAGO, ILLINOIS

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LOVER'S COMPANION

Tells "How to Woo an Heiress" "How to Court a Bashful Girl" "How a Lady Should Manage Her Beau to Make Him Propose Marriage" "How to Catch a Rich Bachelor" "Love Letters" "How to Win the Favor of Ladies" "Wedding Etiquette, etc. All subjects treated in a way most helpful to lovers. This great book will be sent postpaid for only 10 cents, or 3 for 25c.

SAM A. L. COOPER HORTON, N. Y.

FREE THIS RIFLE

Just distribute 6 boxes MENTHO-NOVA Salve (Great Healer) at 25c a box. Write for goods. We trust you. Return as $1.50 and high-powered rifle and handsome initial ring are yours or choice of other presents.

U. S. SUPPLY COMPANY, Dept. 750 Greenville, Pa.

HILL'S EVERGREENS GROW

Best for windbreaks, hedges, screens. Free Catalog. D. HILL NURSERY CO., Inc., 2861 Cedar St., DUNDEE, ILL.

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

With the Editor

AUTO A FACTOR IN FARM VALUES

I took a ride in one of those six-cylinder automobiles with a farmer friend one afternoon not long ago, and in the course of our conversation, this friend said: "The automobile has added from ten to fifteen dollars an acre in value to every farm along this pike."

I had never looked at it in that light before, but after digesting his statement I am of the opinion that he is more than right. The hour's time formerly consumed by "the bay" in a trip to town, has been reduced to one-fourth that time. The young folks can take the car, and go to town in the evening to social or other entertainment, without having to use a horse that has been worked hard all day, or can visit friends fifteen and twenty miles away, and still be home in time for a good night's rest. And this means much for the young folks.

"Nothing like an auto to take your mind off your business. And it is as necessary for the farmer as for the city business man. Added to the productive feature of farming nowadays is that of marketing this product. That requires brain work, and the farmer's brain needs relaxation just as much as any other business or professional man's does," said this farmer friend. "And an hour's spin in the machine, with a friendly visit with a faraway neighbor, makes the work lighter, and fits one for the morrow's task."

Appearances in his case are that he is right, and he has both the mental and physical goods to show for it.

GOOD ROADS MANIA

We venture the assertion that every farmer, regardless of location, is very much in favor of good roads, but he is not willing that his farm and all of its equipment shall be practically confiscated in order that cement or asphalt pikes may be the order of the day. The fact is that he feels that a smooth road-dragged surface answers the purpose fairly well, and at the outside, a macadamized road is good enough for any one.

ATTENTION OF MR. BRYAN PLEASE

Here's a little suggestion for clearing up the Mexican situation, getting rid of the Phillipines, and making a firm friend of Japan:

Offer Japan the Phillipines if the Japanese will go down into Mexico and wipe out Carranza, Villa, et al., and place the government upon a basis which will be satisfactory to us.

In case Mr. Bryan does not care to use this three-birds-with-one-stone suggestion, it is respectfully referred to any other man, preferably James Mann, who can probably make campaign material for 1916 of it.

Frugality without the necessity of it and untainted with stinginess is one of the rarest and noblest of virtues.

What has become of that expansive currenty measure? Has it fallen into the hands of the Philistines?

20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE

It runs on kerosene (coal oil), gasoline, distillate and alcohol without change in equipment—starts without cranking—runs in either direction—throttle governed—hopper and ash-cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—light weight—easily portable—great power—starts easily at forty degrees below zero—complete ready to run—children turn them—factory prices based on enormous cut post—30 day money-back trial—10 year limited guarantee. Sizes, 1 1-2 to 18 horsepower. Send a postal today for free catalog which tells how these will be useful to you. No go-betweens. Pocket agents' and middlemen's commissions get by dealing direct with factory. (602)

Detroit Motor Car Supply Co. 255 Canton Ave., Detroit, Mich.

(602)

SYKES

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Galvanized or Painted Roofing

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30 Year Guaranteed Galvanized Roofing

Made of selected best grade No. 24 gauge basic open hearth metal with an extra heavy coating of ZINC OR GALVANIZE and PURE TIN. Write today for price list No. 62. When you buy from us you buy from the manufacturer.

Established 1877

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FOOTBALL CAMERA BRACELET MOVING PICTURE MACHINE

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$10,000.00 Backs This Heritzler & Zook SAW Portable Wood

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By using our low down steel wheel wagon

Electric Handy Wagons

saves high lifting, lighten draft, don't rut roads. Spokes don't loosen—wheels don't dry out or rot. Write for free book on Wagons and Wheels.

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Experience Unnecessary I teach you how. Costs nothing to investigate. If you want the job, write me today and I will explain all about my great money-making plans FREE. Rush!

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The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly

Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXV — JANUARY, 1915 — Number 1

SOME THOUGHTS FOR THE NEW YEAR

AS WE enter upon the 365 days of the coming year, it seems very meet that we do so with some sort of an understanding that this year will witness a consistent application to a purpose. One of the most pathetic things in the lives of most of us is our utter lack of purpose. It is unfortunately true that the greater percentage of humanity have for their sole aim and purpose the goal of just "getting by."

It means the line of least resistance in our personal affairs, and a little retrospection will convince each one of us of the utter futility of a life with such ignoble ambition. Not one of us but can number among his acquaintances several persons who seem to have nothing to live for but to be entertained. And such persons are usually the frivolous, frothy slaves to habits of selfish carelessness which take no thought for the comfort and convenience of others.

These things are characteristic of purposeless lives, and lead to discontent and all manner of unsatisfactory contradictions. The entire trend of the lives of such persons may be radically changed by the introduction into future plans of a genuine and worthy purpose. Such an introduction gives incentive to the cultivation of ambition, leads to initiative, initiative to accomplishment, and a life of accomplishment means a life well lived.

"MADE IN AMERICA"

For the first time, probably in the history of this country, there is a clean-cut opportunity to boost the sale of wares made in this country. For ages, it seems, the craze for imported wares has been one form of dementia which has materially hindered the development of manufactures in lines which could be made just as good, if not better, than those furnished by the manufacturers of European countries.

That this opportunity is recognized by American manufacturers is evidenced by the actions generally of boards of trade, commercial clubs, and other organizations having to do with the promotion of manufacturing and mercantile interests, who are now abandoning local slogans and adopting the one of broader conception, "Made in America."

This move is sure to come to naught, unless these bodies have the intelligent co-operation of the great mass of people whose patronage make the prosperity of American commerce possible. A moment's thought will convince the average person that this proposition is retroactive—it means the employment of our own home labor—our relatives and friends—who in turn become additional patrons of the labor of others. We feel sure that one of the safest and sanest resolutions which any person can follow in 1915 is that of buying only the merchandise which bears the label of being "Made in America."

SHIP SUBSIDIES

We have never been in sympathy with any movement to grant subsidies to any branch of public service, but we are heartily in accord with the sentiment expressed in President Wilson's message on this most vital subject. We are also in hearty accord with his statement that this is no time for Congress to maneuver for political advantage, but that the work of our servants in Washington should be directed toward the end of the greatest good for our industrial and commercial expansion.

It takes ships to carry merchandise to foreign countries, and there is right now an overwhelming demand for such shipping facilities. But, the uncertainty of conditions which will obtain when the war in Europe is ended, makes private capital somewhat timid in undertaking such a financial venture as the building of a merchant marine. It means a long road to travel before such undertaking would become a profitable venture, and our merchant marine might be up against very serious circumstances before it became sufficiently remunerative to attract any class of investors.

PATERNALISTIC GOVERNMENT

We imagine that the inauguration of a merchant marine under government auspices would cause some of the people whose conceptions of proper living conditions is "everybody for themselves, and the devil take the hindmost," to rear up on their hind legs and bray at the ruthless desecration of this selfish principle. Selfishness usually proves its own undoing.

And there has been times when all of us subscribed to belief in this doctrine, but that was before we became familiar with the meaning of the word "altruism." Scientific investigation along labor lines has proved that the higher the standard of labor, the greater the efficiency, and that a non-producing factor in any organization, social or otherwise, is a loss. Hence the tardy recognition of "altruism."

The marvelous development of industrial and commercial Germany is due entirely to the paternalistic attitude of the government. Just why the United States could never learn from old-country methods has never been fully explained, unless it was the belief in the principle of "everybody for himself."

A Happy New Year

The New Year is here, and brings with it many duties. The greatest of these is to be happy—happy in useful effort, in good cheer and calm courage; happy in friendships and mutual help, in right thinking and living.

364208

THE COUNTY AGRICULTURIST

Partial Presentation of What Was Done in Oneida County, N. Y., by This Counsellor, Guide and Willing Helper

THE trial period of the operations of the County Agriculturist is now past, and the results of his labor in the communities in which he has operated has proved beyond doubt that any investment made by any farming community in this kind of work pays big dividends.

The following is taken from the report of G. W. Bush, Assistant Agriculturist of Oneida Co., N. Y., with offices at Utica, N. Y.

The work done is under the direction of the Oneida County Farm Improvement Association, and its aims and purposes are best given in the words of a pamphlet issued by the different agencies co-operating in the work. "The service costs nothing. Whatever the Farm Bureau accomplishes for any individual farmer in Oneida County, it accomplishes for the whole county."

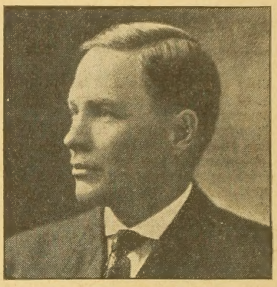
A representative was installed in this field November 1, 1912, under an agreement between the U. S. Department of Agriculture, New York State College of Agriculture, Utica Chamber of Commerce, to which was added the Oneida County Board of Supervisors, Crop Improvement Committee of Chicago, New York Central, and New York, Ontario & Western railroads.

ORCHARD WORK

The first direct work was started with several orchards that had long since begun to decline. Eight of these were secured for co-operation, but owing to the inability of the owners to get the work done, only five completed the pruning.

In pruning, care was taken to remove all dead wood and all superfluous branches, preserving at the same time as many of the lower limbs as possible. Usually six or seven main leaders were left with enough side branches to fill in uniformly all the space above and below; in many cases the amount removed exceeded the amount left. In doing away with this surplus wood great care was taken to make the cuts very close and to paint them over with some cheap lead and oil to insure quick and perfect healing.

All of these orchards were sprayed with a dormant spray for scale, etc., before any growth started in the spring and again with lime sulphur and arsenate of lead, summer strength, for



Mr. G. W. Bush, who shows the type of men engaged in this kind of helpful work

moth and scab, just as the petals were falling from the bloom and then again in about ten days. A June frost injured several of these orchards at this time, causing most of the blossoms to fall. However, five had already been plowed and manured and were harrowed occasionally until July 1st, when clover was sown. As a result, the trees have grown an abundance of young wood and buds. They carry a deep green foliage and are now standing ready to give a good yield next season. Two of the orchards mentioned, which were very carefully tilled, were in a somewhat sheltered locality and were too far advanced to be seriously injured by frosts. They have yielded from twenty-five to thirty bushels to the tree, or, in one case, 1,000 bushels, and in the other nearly as many again.

The apples from one of the orchards were packed in hampers in three grades and are selling for $1.50 per bushel for No. 1, $1.25 for No. 2, and $1.00 for No. 3. Practically 98 per cent have a diameter of greater than 2 1-2 inches and are free from scab and worms. As the crop is not all sold it is impossible to give the net results from this work. However, it is fair to say that it will be approximately $26.00 per tree, after the cost of pruning, manuring, cultivation, spraying, clover seed, picking and marketing is deducted. There are one hundred trees in the orchard, forty of them in bearing this year.

It might be of interest to state here that through the work instituted by the Farm Bureau in the orchards, and as a result of meetings, personal visits and agitation, one company that had never sold lime sulphur or arsenate of lead before disposed of over 500 gallons lime sulphur solution, 500 pounds sol. sulphur and over 200 pounds of arsenate of lead during the past season. During the same period at least three other companies dealing in the same chemicals sold a considerable quantity of lime sulphur and arsenate of lead in Oneida Co. On account of the unusually late frost much of the material was wasted. The same should mean a good many dollars profit in any ordinary year.

The difference in yield in the sprayed and unsprayed portions of this field more than repaid the cost in labor and material

FERTILIZERS

We had three co-operators with fertilizer, one with nitrate of soda on timothy hay, one with nitrate of soda on hops and one with various amounts of home mixed fertilizer with different proportions of nitrogen, phosphoric acid and potash.

The last-mentioned effort was undertaken late on a very poor field and, owing to the dry season, very little became available. The nitrate of soda on the hay was applied broadcast on May 26th at the rate of

150 pounds per acre, and cost $4.50. The yield of hay was eight tons of field dried hay No. 1 timothy from 1 3-5 acres. The yield per acre was 5.7 tons, or 1.7 tons increase over 1912 when no nitrate of soda was used. Allowing 1-3 for shrinkage, the yield of mow-cured hay would be 3.8 tons, or 1.1 tons increase over 1912. This would point toward the value of the use of nitrate of soda on timothy, especially where there are plenty of good plants. The hay over the field was fine, over four feet high, and when cut lay so thick on the ground that it was almost impossible to rake.

The nitrate of soda was sown on the hops at the rate of 100 and 200 pounds per acre at different dates, June 16th and July 1st. At picking, the difference was not very apparent between the treated and the untreated. The whole field was in excellent state of tillage and fertility. While results were not very pronounced in this case, we are of the opinion that on a field which is not regularly fertilized with barnyard manure, the yield would be increased materially.

COW TESTING ASSOCIATIONS

During the winter and spring of 1913 about three weeks were occupied in forming Cow Testing Associations. There are now three of these organizations in the county. The oldest known as the Waterville Cow Testing Association, was formed before the Farm Bureau came into existence. The others, known respectively as the Westerville Cow Testing Association, and the Knoxboro-Deansboro Association, were formed by the Farm Bureau in co-operation with the New York State Department of Agriculture.

The plan of this work is, wherever possible, to have the farmer weigh the milk each day. The tester visits the farm one day each month and, unless done by the owner, he, the tester, weighs the milk, testing it for butter fat, weighs the feed, computing from the result the cost of maintenance, and the net revenue. This makes every individual cow stand on her own merits and by this method the robbers and boarders can be easily cut out from those that pay. There are about 1,500 cows on this sort of a business basis in the county. Besides this, in some instances the associations are doing semi-official testing for pure blood herds under the rules of the different pure blood associations.

A FAIR PRICE FOR LIME

Perhaps the greatest work done by the Farm Bureau and its friends is that of establishing a proper price for lime in Oneida County. The established price for lime in Oneida County previous to the installation of the Farm Bureau ran from $4.00 to $7.00 per ton. One of the Bureau's first tasks was to investigate this unfair situation. After a thorough search a bottom price was secured. This firm was willing to furnish limestone, ground fine for analyzing 90 per cent total carbonates, for $1.35 per ton f. o. b. at quarry. Next we found that the Delaware, Lackawanna & Western Railroad, controling transportation from the quarry, were charging an irregular rate on ground limestone, unintentionally discriminating against several towns in the county. At this point the Farm Bureau, in connection with the Utica Chamber of Commerce, took the matter up with the Delaware, Lackawanna & Western Railroad. The railroad was fair in the matter, and as a result no place along the lines of the Delaware, Lackawanna & Western Railroad in Oneida County has a rate on ground limestone exceeding $1.00 per net ton in carload lots. Later, through the assistance of Mr. Welsh, Agriculturist of the New York Central & Hudson River Railroad, the rate was reduced 30 per cent on car shipments from all quarries that charge less than $1.50 per ton for ground limestone. This lowers the price of ground limestone so that at no station on these railroads in Oneida county a farmer need pay over $2.35 per ton for good ground limestone delivered in carload lots. At many of the stations it is less than $2.00 per ton delivered. In the short space of time these improved rates have been in force, over thirty cars have been delivered, and orders for twelve cars additional were cancelled because of shortage of cars. A much larger amount will be delivered the coming winter and spring.

Another instance where spraying yielded big returns

The Farm Bureau carried on several co-operative tests with the use of fresh burned lime and ground limestone on clover seeding at time of sowing. These fields are in widely separated parts of the county and represent many varied conditions. While next year will be the time to find out whether the lime is beneficial or not, it is safe to say that nearly all these fields are looking promising at present.

ALFALFA

Another important thing that the Farm Bureau has done this year is to co-operate with farmers in different parts of the county in the growth of alfalfa where it does not grow naturally. In all, we sowed six fields in June and four in August, varying in size from one-half to two acres. In our June sowing we plowed a corn stubble in the fall, manured during the winter, limed early in the spring with either fresh burned or ground limestone, harrowing into the soil as we fitted the fields. We began harrowing early and kept this up from time to time until the middle of June, when we sowed four hundred pounds per acre of soil from a good alfalfa field, taking care not to expose it to the sun. After this was well harrowed in, we sowed from the grass seeder of a grain drill thirty pounds per acre of good alfalfa seed alone and then rolled. All of these fields have been cut once and some twice, and left on the field during the past seasons, and all are going into the winter in excellent condition. In the August sowing we plowed corn ground in the fall, limed with ground lime stone or fresh burned lime in the early spring and sowed to early peas. These came off in early July and the fields were plowed again and manured with barnyard manure and harrowed several times between then and August 10th, when four hundred pounds to the acre of soil from an old alfalfa field was sown with the same care as before. Following this, seed was sown and rolled as in June sowing. These fields all look well, though the growth is not as hardy to stand the winter.

Mr. Bush adds: "It would seem that the Bureau has been of real practical use during the past year and that there is considerable direct financial benefit that the farmers have received. As, for example, we would point to the rates on lime, to the success with alfalfa, apples and potatoes.

FARM LABOR

We have endeavored to help those who applied to us for farm labor. The New York State Department of Agriculture maintains an office for the purpose of securing farm help among the foreign laborers in New York City. Through this office we have secured about twenty-five. Only four of this number, so far as we have been informed, failed to be satisfactory. Record is kept in the New York office of all sent out, so that the second time they apply for work it is understood whether they can be recommended.

THE KING OF FARM CROPS

Its Successful Management and Development Treated by Practical Farmers in a Practical Way

THE CURING AND STORAGE OF SEED CORN

THE battle is only half won when the seeding-corn crop has been harvested, husked and partially cured. The curing and storage of seed corn are as important as any of the other major operations necessary in the production of the crop.

Seed corn th t is in fine condition after it is husked out of the shock may subsequently be ruined, so far as the future yield of a profitable crop is concerned, if the grain is not thoroughly cured, and then stored under conditions that will not injure its germinating powers.

A satisfactory medium for curing corn

In some prosperous farming districts it is not an uncommon sight for one to see strings of ear corn tied around the windmill frame, or decorating the upper portion of the front porch. Corn cured in such exposed positions often germinates as low as thirty and forty per cent, due primarily to the fact that the shocks of alternate dry weather and wet weather, combined with serious frosts, have vitally reacted on the viability of the seed grain. Corn in the process of curing is benefited by a complete circulation of air around each of the ears, but the atmosphere must be of a uniform temperature that borders on heat rather than cold.

Farmers who string their seed corn in the attic near the chimney, or in a kitchen which is not overly hot, come closer to practicing an efficient method of curing their grain. Even this popular system is not as near perfection as it should be. For best results the seed corn should be stored in a fairly warm room of equable temperature, which is sufficiently ventilated to allow a complete circulation of air throughout the storage place. The attic through which run the chimneys is fairly suitable for this work, if the room is not too stuffy and poorly ventilated.

It is not enough to string up the ears on beams or close to the walls. If this is done one ear usually overlaps another and a complete circulation of air around every ear is impossible. The result will be that a portion of the ear will be properly cured, while the rest develops low powers of germination.

The corn tree is a practical and inexpensive device that readily overcomes this difficulty. It consists of a four or five-inch post, about six feet in length, which is mounted on a platform of adequate weight and strength to maintain the post in an upright position. Rows of spikes or long nails, with points outward, are then fastened in the post far enough apart so that an ear of corn may be jabbed onto each nail and yet not touch the ears above or below it or to the right or left. The air is able to freely circulate among all the ears, and where the corn tree is kept under favorable conditions seed grain that will germinate ninety-eight and ninety-nine per cent should result. An average-sized corn tree should accommodate enough corn to sow fifteen or twenty acres.

Another method, that perhaps involves a little more work, is to string the corn as shown in the picture in such a way that no ear will touch its neighbor. This is accomplished by alternately stringing the twine on the inside of the first ear and on the outside of the second. Two lengths of twine are used, so as to hold the ears of corn in balance. The cords are placed about three or four inches apart, and each cord is about two inches from the end of the cob that is nearest to it. Where the string of ears extend from the ceiling to the floor of a nine-foot room, it is possible to place about forty ears of ordinary seed corn in each series of stringers.

Some farmers make use of a curing rack, which holds the individual ear free from contact with other ears. The rack may be made any size that the countryman desires, the important point being that parallel intersecting wires about three inches apart are so arranged that one ear of corn will be accommodated in each of the squares formed where four strands of wire cross each other.

Still another way of stringing corn that finds favor in some agricultural communities consists of looping a piece of twine around the middle of each ear, and so placing the ears on the long cord that no ear touches any other ear. Reference to the illustration will show the reader the principle of this method of curing. The wire device shown at the extreme right of the same picture is objectionable, as it permits the ears to come in contact with one another. This can be remedied by the use of a double row of pins placed at regular intervals along the wires to which each ear of corn may be fastened.

It is essential that the valuable seed corn should be stored where it is protected against the ravages of rats and mice. A wise precaution is to sprinkle some effective rat poison in the room where the corn is stored if the room is inaccessible to children and pet cats and dogs. The use of efficient rat or mice traps is also recommended. Where the seed corn is hung on stringers that are placed some distance from the ceiling, floor and side walls the rodents cannot reach it. After the farmer has worked hard in the production and curing of his seed corn he would be foolish to permit pestilent animals or inclement conditions of storage to effect the partial ruin of his valuable grain.

LOSS FROM IMMATURE CORN

At Riverside Farm we find that one of the greatest problems is that of selecting seed corn that will produce a maximum yield of sound ears. The fact that so much time and talk expended by experts and lecturers have not resulted in producing varieties that will mature the crop during the normal growing season shows a lack of appreciation of sound corn. The loss from immature corn is so great that few of us can approximate the percentage of sound corn we can produce during the average season. Sound corn is better food for stock and commands higher prices at the elevators.

(Concluded on Page 26.)

Corn that germinates 99 per cent obtains only where proper storage and curing are practiced

A Story of Hard-Won Success

By Joseph E. Fischler

THIRTY years ago I cleared up this farm, built the buildings on it, and had five hundred dollars, a horse and two cows to start with. It was fifty acres of old bark slashing, and I thought I was rich.

After I had the buildings built, the orchard planted and the land cleared, I found myself head-over-heels in debt. Then came the hard times of 1896 and my creditors with them, and knocked the underpinning out from under me. For years it was a leading question as to whether Joe Fischler would ever be able to pay his debts, as much to me as others, for my creditors had sold all my loose property. The farm was mortgaged for more than they thought it was worth, which proved a piece of good fortune for me, as that was one of the spokes in my wheel of fortune.

The planting of the orchard proved a source of merriment for my friends, but after many years the despised orchard began to bear fruit—apples, pears, cherries and plums. We have not missed a crop in seventeen years. Four years ago we had over 3,000 bushels of apples; three years ago 2,500 bushels; in 1913, 2,000 bushels, and last season we had over 2,000 bushels. For the past twenty years we have had cherries, plums and pears for family use, and a large surplus to sell.

I am not writing this to brag, but to let the readers of Farm News know that the orchard I planted when I was young provided for me a place to lay my head now. I also want to tell you of my experience with alfalfa.

In the fall of 1911 I plowed a piece of sod ground, expecting to grow alfalfa. The following spring I plowed the same field again, and applied 1,000 pounds of hydrated lime per acre. I then harrowed and reharrowed the field, until it was like a garden, and then drilled in two bushels of barley per acre, and sowed twenty pounds of alfalfa per acre. The soil was inoculated with soil from an alfalfa field before we commenced to harrow. Of course I expected to get a great stand of alfalfa, but owing to a heavy rain just after it was sowed it failed to materialize, but I got a great crop of barley, averaging over fifty bushels per acre. The next year we cut about four tons of weeds and a little alfalfa.

Last spring I plowed the same field, and applied 1,500 pounds of raw ground limestone, and sowed it to Canada field peas and oats. The army worm destroyed the oats, but I got the best crop of peas I ever saw. Now I think I have this field in shape to sow alfalfa in the spring. I am not going to plow this field again next spring, but expect to disc and harrow it until I get a good seed bed. I will sow about twenty-five pounds of alfalfa seed to the acre, and may also sow about one and one-half bushels of barley as nurse crop. I will not let the barley get ripe, as I think it is too hard on the young alfalfa plants.

The crop of barley in 1912 and the peas and oats in 1914 were the best crops I ever raised. I have found that it pays to use lime on most of our soils, and I attribute the success of these crops to the use of lime and thorough tillage. We do general farming, growing hay, oats, peas, barley, rye, corn, potatoes, and buckwheat and apples. Yes, apples, for the reason told at the beginning of this article.

No fault can be found with the man who don't know. But the man who does know, and lays down on his mission in life, has to answer for an awful responsibility

Mr. Farmer, it has been proved beyond the shadow of a doubt that chicken raising on the farm is very profitable. The product is always in demand, and at a high price. Poultry raising on the farm is easily accomplished. See page 14.

BUSY DOCTOR
Sometimes Overlooks a Point

The physician is such a busy man that he sometimes overlooks a valuable point to which his attention may be called by an intelligent patient who is a thinker.

"About a year ago my attention was called to Grape-Nuts by one of my patients," an Ohio physician writes.

"At the time my own health was bad and I was pretty well run down but I saw at once that the theories behind Grape-Nuts were sound and that if the food was all that was claimed, it was a perfect food.

"So I commenced to use Grape-Nuts with cream twice a day and in a short time I began to improve in every way and I am now much stronger, feel better and weigh more than ever before in my life.

"I know that all of this good is due to Grape-Nuts and I am firmly convinced that the claims made for the food are true.

"I have recommended, and still recommend, Grape-Nuts to a great many of my patients with splendid results, and in some cases the improvement of patients on this fine food has been wonderful.

"As a general food, Grape-Nuts stands alone." "There's a Reason."

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Try this Recipe for using

Baker's Chocolate

CHOCOLATE DOUGHNUTS

¼ cup butter
1¼ cups sugar
2 eggs
1½ squares Walter Baker & Co.'s Premium No. 1 Chocolate
1 cup sour milk
4 cups flour
1 teaspoonful soda
1 teaspoonful cinnamon
¼ teaspoonful salt
1½ teaspoonfuls vanilla

Cream butter and add sugar gradually, while beating constantly; then add eggs well beaten, chocolate, melted, sour milk and flour mixed and sifted with soda, cinnamon and salt. Add vanilla and more flour, if necessary, to handle the mixture. Toss on a slightly floured board, knead slightly, and pat and roll to one-fourth inch in thickness. Shape with a doughnut cutter, first dipped in flour, fry in deep fat and drain on brown paper.

This recipe is from our sixty-four page book of Choice Recipes, which will be sent FREE on request

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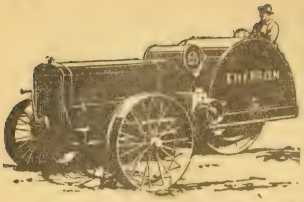

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AGENTS

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Fresh From the Farm

By Farm News Subscribers

HOW MUCH WORK CAN JOHN DO?

JOHN is our hired man. He is experienced in general farm work. For years I have desired to know just how much work John performs each day.

It would immeasurably lighten my task of planning future work, and of mapping out the farm campaign, if I knew exactly how many acres John could plow in a day, how much land he could disk and drag, how many acres of corn he could plant, how much corn land he could cultivate.

Recently Uncle Sam became interested in this problem that had been puzzling me for several years. Uncle Sam collected data, the country over, relative to what constituted a normal day's work in the various farming operations. The results of this interesting investigation are of particular value on large farms, where many men and units of equipment are employed.

On an average the simpler operations that involve the smallest number of laborers are the most economical as regards the daily amount of work that is accomplished. Of course the working capacity of the man and team, as well as the efficiency and capacity of the implements used in different sections of the country, will exert a marked effect on the daily work accomplished. Uncle Sam, as nearly as possible, obtained average results made with average equipment, teams and drivers under average weather conditions.

In boiled-down form here is the meat of Uncle Sam's findings. A double team with a fourteen-inch walking-plow will cover two acres per day, while three horses hitched to a similar plow will turn 2.32 acres. The sulky plow will perform a little more work per day, but will do more shallow plowing. When working at the same widths and depths gang plows are a trifle more efficient than sulky plows. A thirty-horsepower tractor will cover 32.5 acres of stubble land per day, where the machine plows six inches deep, or 20.3 acres of sod land turned 4.5 inches.

On plowed land about twenty per cent less harrowing per day can be accomplished as compared with that done on well-packed fields. With two horses, respectively, used to the spring-tooth, spiked-tooth and disk harrows it is possible to harrow eight to twelve acres per day. A two-horse, land roller, ten feet wide, will roll sixteen acres per day, while a four-horse roller that is sixteen feet in width will cover twenty-eight acres in a day. A grain drill of the two-horse variety will sow ten and one-half acres a day, while a four-horse drill will plant about sixteen acres. A two-row, two-horse corn planter will seed eleven acres in ten hours. A ten-foot, two-horse lime spreader will lime eleven acres, while a two-horse mower will cut eight acres of hay per day.

With one horse a man can rake about 13.5 acres in a similar period. With a four-horse grain binder a farmer can harvest seventeen acres a day, while a three-horse corn binder will handle nine acres in a like time. A normal day's work with a two-horse cultivator is twelve acres.

COMMENT ON FAIRS

By Harold W. Rustin, New York.

YOUR recent article in Farm News on county and state fairs has caused considerable favorable comment in this locality. About two years ago the men in this neighborhood organized a community club, for the promotion of social life and wholesome amusements, and to help in every practical way in the upbuilding of the neighborhood. Weekly meetings are held, with varied programs.

In September, 1913, we held our first fair, which proved to be very interesting and instructive. We were agreeably surprised to see the variety and quality of farm crops raised in this section. Last September we had another country fair at the fair ground. We had three large tents for women's needlework, flowers and other displays, besides numerous stands for the display of fruits, grain and vegetables. We held a plowing contest in which twenty teams competed for a cash prize of $10.00. We also had a good brass band playing all day.

The attendance was estimated at about 15,000, and 300 autos and more than 200 other vehicles were parked near the grounds. We had our own uniformed police force, who maintained perfect order all day. No admission or entrance fees were charged, but our

(Continued on Page 22

Free Prizes Given to Our Readers

You Can Share in the Distribution By Reading This Magazine Carefully

Every reader, man or woman, who sends us the correct number of times the words "SEND," "WRITE" and "RUSH" appear in this issue, in both reading and advertising columns, will receive a prize. Only one prize will be awarded to a family.

In order that every contestant will be treated on an equal basis, the prizes will all be the same. They will consist of a fine safety razor in neat box, or a handsome necktie for the men, and three neat hemstitched handkerchiefs, or a beautiful necktie for the women. Be sure to state which you prefer. When you have finished your count, just drop us a line telling us how many times you have found the words "SEND, "WRITE" and "RUSH." That's all there is to do.

The contest will close on February 10, and your letter should be in our hands by that date. Address the $ Contest Editor, Farm News, Springfield, Ohio.

Throw Away Your Old Churn And Stop Butter Waste

You'll never do another day's churning the old way once you make butter with a Fayway Butter Separator. A single trial with this wonderful butter maker will convince you that you simply **can't afford** to bother any longer with churns. You can't afford to because if you use a churn you are wasting time and labor and—**you are losing money!**

Read the following conservative statements of what we guarantee **you** can actually do with a Fayway Butter Separator. Then put our claims to the test by sending for a machine and give it a 30 days' free trial right on your own farm.

We guarantee that with a Fayway Butter Separator you can make butter in **less than half the time it** now takes you with any churn you may have, under the most favorable conditions.

You can make **better** butter than it is now possible for you to make.

You can make **more** butter from the same amount of cream than you are now getting.

You can sell "Fayway" butter for from 5c to 10c a pound **more** than country butter usually brings.

Now isn't a machine which **positively does** make all these things easily possible, worthy of your most serious consideration? Isn't it about time to throw away your back-breaking old churn that never **has** given and never **can** give you as much or as good butter as you are entitled to, and investigate the merits of this wonderful butter making invention?

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Has Revolutionized Butter Making!

This machine has created the biggest sensation of any dairy invention since the cream separator was introduced. Its fame is spreading like wild-fire—nothing else like it! Thousands now in use all over the country and everywhere it is hailed as the greatest boon ever offered to farmers. It is **not** a churn, but a scientific, practical, easily operated machine that works on an entirely different principle from any churn you ever saw or heard of. It does away with all the hard work, bother and muss of churning. Produces **more** and **better** butter from the **same quantity of cream** than can possibly be obtained from any churn in existence and in less than half the time required with any churn.

Big Profit Maker for Cow Owners

Do you realize that with any ordinary churn you are bound to waste butter? Well, you are! All churns leave from 1 to 6 per cent of butter fat in the buttermilk—and you throw it out to the hogs!

By actual analytical test the "Fayway" leaves **much less** than one-fifth of one per cent—there's not a particle of fat the size of a pin head left in a gallon of "Fayway" buttermilk! You'll get a good 6 per cent more butter than you are now getting. Even were there no other sources of extra profit this increase in butter would alone soon pay for the machine. But there are other and **much greater** sources of extra profit by using a "Fayway."

"Fayway" Butter Brings 5c to 10c More Per Pound than Churned Butter

Thousands of "Fayway" users are proving the truth of this every day. "Fayway" butter has better body, contains less moisture, keeps longer, looks better and tastes better than any "churned" butter on the market. Naturally it brings a much higher price—from 5c to 10c per pound more—and "Fayway" butter makers can't supply the demand even at the increased price! The **extra** profits from the same amount of cream you are now churning will **quickly** pay for the machine many times over! It's **not** an expense but a **sure, big dividend paying** investment.

30 DAYS FREE TRIAL

We'll loan you a "Fayway" for 30 days or more so that you can **prove all this** at our risk and expense. We don't want you to keep or pay for the machine unless you are thoroughly convinced of the literal truth of our every claim.

The "Fayway" Makes Butter—Quick

It's more like fun than work. Just pour in the cream, give the easy-running crank a few turns and—presto! There's the butter! A beautiful golden color of superior grain and firm, waxy texture—the finest butter you ever saw or tasted.

The "Fayway" works on a different principle—that's what makes the big difference in the quality of the butter. All churns beat or whip the butter fat out of the cream. This breaks down the fat globules and makes greasy, salvy butter that spoils quickly. The "Fayway" has a center hollow shaft through which a strong current of air is forced, literally blowing all the butter fat upward where it quickly forms into golden pea-shaped granules, ready for the working bowl. Absolutely free from impurities of any kind, the butter is washed and worked in half the time "churned butter" requires.

Complete Course In Butter Making FREE

Greatest innovation of the age—a wonderful, complete course in butter making free. Every farmer has always needed it. Shows you how to build up a big, profitable butter business—teaches you to be an expert—tells you all about proper temperature, best feed, how to prepare cream, how to properly salt and work butter—in fact, tells you everything you should know about butter making—solves all your butter making problems—guides you past the dangerous places. Every farmer needs this remarkable course, no matter how much he already knows about butter making.

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HORSE NOTES

If you want large horses you must feed plenty of nourishing foods.

Large draft horses save the driver's energies for work that requires care and skill.

Pot-bellied, hay fed colts tell the story of improper feeding, slow growth and poor form.

Wheat bran and oats for grain, and clover, alfalfa or mixed hay makes a fine ration for growing colts.

A roughage ration of any kind is not sufficient during the winter. A little grain helps out wonderfully.

Get a weanling colt accustomed to being haltered and by the time he is a year old he will stand hitched like a horse.

City firms appreciate the advertising value of fine teams. Are such teams not equally as good advertisements for farmers?

There is nothing that produces stiffness, inflammation and unsoundness any faster than standing in a stall day after day.

The pleasure and satisfaction of breeding and handling good horses remains long after the cost of the foundation stock is forgotten.

If you invest in a few draft mares and start in breeding, make up your mind to stick to the business through thick and thin, through good times and bad.

Now is the time to halter—break your young colts—that is if you have not already done so. Don't wait until next spring or you will find them much harder to handle.

The improvement of the quality of the grade horse in the country, has been made by farmers who are willing to pay a reasonable price for the services of a high-class stallion.

During the first winter one should provide some sort of a sheltered yard for the colts, so that they may run about and exercise for a few hours every day when the weather is pleasant.

The large number of draft horses that remain strong and supple after years of hard work, furnishes convincing proof that their usefulness is not confined to such narrow limits as many men suppose.

PIG NOTES

Do away with the old sour swill barrel. It's a disgrace to your farm.

The sow that raises eight good pigs is doing about all that we can reasonably expect her to do.

When feeding ground oats to young pigs, it is better to sift the oats and throw out the hulls.

Lean, lank hogs and poor fences will discourage almost any farmer who has such a combination.

Young pigs should be sprayed or dipped freely to keep them free from parasites and vermin.

The injurious effects of feeding a ration containing too much corn may be overcome by feeding skim milk.

Grass-grown pigs make the best breeding animals. Of course they grow and mature more slowly, but they have the strength and constitution.

A 200 pound hog of the bacon type will be thin-boned, stand well on his feet, and is a better hog than the big-eared, loosely-built, big-boned pig.

There is little sentiment connected with feeding a bunch of pigs, and few farmers would be in the game were it not for the profits which it should afford.

When feeding mill feed we always feed it in the form of a thick slop. Thin slops compels the pig to take too much water, and is not apt to produce as good results.

It seldom pays to hold fattening pigs for better prices, unless they are making good gains all the time they are being held. While a few feeders win out in playing the market game, many lose out.

Some people seem to think that a thin hog is a bacon hog. It is not; but the pig that is well grown on a nitrogeneous ration, and that is nice and sleek, but not fat, is the market topper nine times out of ten.

How about the sire? Get him so he can have a little exercise, away from the other hogs. Always bear in mind that your pig crop is seldom better than your sire. His influence on the profits of the year amount to more than that of any two sows.

There is nothing in which the results are more certain, clearly visible, and financially satisfactory, than in the use of improved sires and dams on the hog farm. There is no logical excuse for using scrubby breeding stock.

The old time hog-houses should be banished forever. It is keeping the pigs confined in these 6 by 8 shacks, and allowing filth and vermin to gather, that has given the hog its reputation for filth. Give the hog plenty of pasture and a dry sleeping place, and he is not such a filthy animal after all.

Never get the idea in your heads that breeding from young and immature

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THE BROWN FENCE & WIRE CO. Dept. 15 Cleveland, Ohio

breeding animals encourages early maturity in the progeny. Good, large pigs, from mature sires and dams, will make better growth and cheaper gains than the undersized runts that result from breeding an immature gilt to some six-months-old boar pig.

With animals that will multiply as rapidly as pigs, it seems almost a shame to see a man breeding old scrub sows to some boar that has no pride of ancestry or hope of posterity. Yet this is exactly the course that about half of the farmers are following, and then wonder why feeding hogs is such an uncertain business.

SHEEP NOTES

Sheep do not interfere with, but fit nicely into modern farming.

When breeding for mutton one cannot think too much of the fleece.

One of the best things to provide for a flock of sheep or lambs is a field of rape.

It is impossible to fix desirable characteristics in the flock by constantly resorting to cross-breeding.

Avoid buying sheep from the stock yards, and taking them onto your farm to use for breeding purposes.

Wet backs and muddy-feed lots have a demoralizing effect upon sheep and lambs that are being fattened for market.

A strong sheep does not necessarily mean a large one; in fact, a large proportion of the strongest sheep are medium in size.

The poorly tilled farm and the behind-the-times owner stands more in the way of successful sheep breeding and rearing than all the dogs in the country.

If sheep could be tended properly by shiftless and careless men the shepherds would not command the highest pay of any workingmen who make a living on the farm.

A breeder must fix his ideal and gradually breed toward it by the continuous use of rams of one breed, and the selection of the best ewes for the breeding flock.

Exercise is one of the essential features in the successful wintering of the ram. Shutting him in a box stall during the winter injures his vitality and breeding qualities.

Nothing need be wasted on the farm where sheep are kept—tufts of grass, weeds and aftermaths, and odd bits of feed can all be utilized and converted into wool and mutton.

MAKING THE MOST OF SHEEP

Several years ago we became very much interested in Professor Coffey's efforts to popularize the small-farm flock on corn-belt farms. We decided to keep a record of our flock, and devote more attention to producing lambs of uniform quality, and conditioning them to meet the demands of the markets. By giving our sheep better care, and producing supplemental forage and root crops for fall and winter feeding, our sheep have been given an opportunity to yield maximum returns just the same as the other branches of our farming. By selecting well-formed, healthy, deep-milking ewes, and mating them with a well-bred, vigorous Shropshire ram of the approved mutton type, we are producing lambs of quality that mature quicker and more uniformly than those brought from the ranges and finished in the corn-belt feed lots. The cost of maintaining the ewe flock and raising the lambs is comparatively small, and the farm is made better by the presence of the flock.

After raising good lambs we find that they must be properly fed to reach the right quality and condition demanded by the markets. The lamb must be fat and evenly fleshed to grade as choice or prime. The ram lambs must be castrated when a few days old, for the ram lambs show an early tendency to become coarse and lose flesh when the sex instinct developes, and hence must be sold at a sacrifice.

By keeping a small flock of breeding ewes, and giving them proper attention, one can add substantially to his net income, and produce lambs of a much better quality than those brought from the range. Our profits from a flock of 60 ewes have averaged more than $170 per year. Taking into consideration the amount of capital invested, and the indirect benefit gained from the presence of the sheep on the farm, it has proved to be one of the most profitable branches of our farming.

MESMERIZED

A Poisonous Drug Still Freely Used

Many people are brought up to believe that coffee is a necessity of life, and the strong hold that the drug, caffeine, in coffee has on the system makes it hard to loosen its grip even when one realizes its injurious effects.

A lady writes: "I had used coffee for years; it seemed one of the necessities of life. A few months ago my health, which had been slowly failing, became more impaired, and I knew that unless relief came from some source I would soon be a physical wreck.

"I was weak and nervous, had sick headaches, no ambition, and felt tired of life. My husband was also losing his health. He was troubled so much with indigestion that at times he could eat only a few mouthfuls.

"Finally we saw Postum advertised and bought a package. I followed directions for making carefully, and added cream, which turned it to the loveliest rich-looking and tasting drink I ever saw served at any table, and we have used Postum ever since.

"I gained five pounds in weight in as many weeks, and now feel well and strong in every respect. My headaches have gone, and I am a new woman. My husband's indigestion has left him, and he can now eat anything."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

Regular Postum—must be well boiled. 15c and 25c packages.

Instant Postum—is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage **instantly.** 30c and 50c tins.

The cost per cup of both kinds is about the same.

"There's a Reason" for Postum.

—sold by Grocers.

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Heals Without a Scar

—grows hair over cuts and sores—makes new hoofs. Often worth hundreds of dollars by saving injured animals from lameness and permanent blemish.

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Just drop me a postcard or letter saying you want to try the big can of Corona Wool Fat 20 days at my risk. Use it according to directions and when the 20 days are up if you find it does what I claim, send only 50c as payment in full—if you are not pleased, simply say so—I'll take your word for it and cancel the charge. Write today. Mention ailment you intend to use it on.

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also any Bunch or Swelling. No blister, no hair gone, and horse kept at work. Concentrated—only a few drops required at an application. $2 per bottle delivered.

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WANTED—MEN Prepare as Firemen, Brakemen, Electric Motormen, Train Porters, (colored). Experience Unnecessary. All large standard roads. Uniforms and Passes furnished. 500 wanted. No strike. Write now. **Inter. Railway, Department 74, Indianapolis, Ind.**

LITTLE BIG THINGS IN DAIRYING

It did me a lot of good the other day to hear that a young farmer man whom I esteem very highly is weighing his milk every night and morning, and keeping an account with each individual cow. He has a big sheet tacked right up against the side of his barn. Near by is a set of scales. When the milk from a cow is in the pail, onto the scales goes the bucket, the weight of the whole taken, the net weight found, and a record made of the result on that piece of paper. This is not the sudden spurt of a day. Since the beginning of the year this weighing has been going on.

Now, why is this a thing so to be commended? In the case of the young man of whom I have spoken, I make this prediction: Inside of a year there will be a big clearing out of cows in that dairy. That is what the weighing is done for—to spot the thieves, and get a line on the best cows. I imagine this young farmer is supplementing the weighing of each cow's mess by a careful test with the Babcock machine, to settle the question of the quality of the different cow's milk. To be at all fair, that should of course be done. For it often proves true that the cow which does not give a very large amount of milk does give such good milk that she is a more valuable member of the herd than is one which puts more milk in the pail, but milk which has little butter fat in it. This is one big little thing in dairying.

The type of dairy animal that brings the bank balance on the right side

Another is the method of pasturing. It is an honest fact that the pastures of this country are a disgrace to the men who own them. Do you know of a single pasture that is good and clean, in which the grass grown is free from weeds and bushes? Milk is made of what a cow eats. The feed to a considerable extent flavors the milk we get. I know there are those who say this is not so; who hold that no matter what a cow eats it will all come out good, pure, sweet milk. I would like to have those who think this tell me how it is that a cow cannot eat leeks and not have them taste in the milk? Or how is it that cabbage, or even turnips, will flavor milk, when fed to anything like excess? Or why milk made of good, fresh clover and timothy makes the finest butter in the world? I tell you pastures do have their bearing on the quantity, as well as the quality, of the milk we get.

Every man ought to make it his business this year, as soon after haying as possible, to get right at his pastures, and clean them up of everything which is not good for a cow to eat. Then, too, one of the best things possible, in the way of keeping up the flow of milk, is to have an extra pasture. By shifting the cows from one pasture to another we may in large measure maintain a good flow of milk through the season. The grass in these two pastures will be more apt to be washed clean by showers and dew than where it is cropped down close all the time. I have found that cows enjoy it to be changed from one pasture to another, too. Anything which adds to the comfort and peace of mind of a cow tends to increase her value to her owner.

One thing more. It is a small thing, but it has great value to the dairy farmer to cool his milk down as soon as possible after it is drawn. Especially in hot weather, it is an easy matter to have a mess of milk spoil for lack of proper lowering of the temperature. We can get aerators now for very little money, and by running our milk through these, we may cool it down rapidly, and insure its keeping good. Even if we have no aerator, we may stir our milk, and set it into a tub of cold water, and so save it from souring. If the water gets warm before bedtime, it may be changed in a few minutes. The loss of a single can of milk is to be regretted. It is a leak. Let's stop it before it begins.—E. L. V.

MAKING COTTAGE CHEESE

When one does not find ready sale for all of the skim milk and buttermilk, another profitable method is to convert it into some form of soft cheese. Cot-

tage cheese, frequently called "schmercase" and Dutch cheese, is the most popular and more extensively used than any other variety, and the demand is good in towns and cities. The process consists in separating the curd from the whey, and preparing the curd for market condition. When the whey is saved it makes a desirable material for mixing with shorts or corn meal as slop for pigs.

The first step is getting the milk properly coagulated. This can be done, either by permitting the ordinary lactic germs to complete the work, or it can be helped to great advantage by the use of rennet tablets, or liquid rennet in proper quantity. The skim milk should be brought to a temperature of 72 to 75 degrees and held there during coagulation.

Unless it is already partly sour it is best to add a starter of buttermilk to hasten clabbering, and in two hours add the rennet solution, if it is used at all. It will require from five to eight hours for the curd to harden enough to begin separating from the whey. At this stage draw off the whey with a strainer, or scoop out the curd and place in cotton bags for draining. The escape of whey may be helped by pressing the bags, or by using a small cheese press, jelly press or cider press.

When all has drained out the curd should be well worked with the hands and salt added at the rate of an ounce to every five pounds of curd, also a little pepper to taste, if desired. Some customers desire a little sweet or sour cream or soft butter mixed with the curd, and will pay more for it in this way. The cheese may be prepared for market either in round balls or rolls, or in square prints and cakes of carrying sizes, and should always be wrapped in oiled or parchment paper. Sometimes it is delivered in the small pasteboard cartons used for butter, or in a pail similar to oyster and ice cream packages.

Prices range from 15 to 25 cents per pound, according to the mixture used, size of package, and local demand. From eighteen to twenty pounds of cheese can be obtained from 100 pounds of milk. In the making of this by-product practice makes perfect, and there is little loss if a few batches are spoiled in trying the work. Any dairyman selling milk or butter regularly could carry the packages of cheese on the wagon with little extra trouble, and could get orders in advance for it, thus being enabled to make the right amount each day.—U.

DAIRY NOTES

Milk of different temperatures should never be mixed.

There is a big difference between a "live" dairyman and a living one.

The man who is breeding his cows along dual-purpose lines is sure to lose at one end what he gains at the other.

It is impossible to combine in any cow, or in any breed, all of the desired qualities, each developed to its highest extent.

Sweet corn is better than field corn for soiling purposes, but it is not adapted for the silo on account of developing too much acid.

Only $2 DOWN and One Year To Pay

For any Size—Direct from Factory

You can now get one of these splendid money-making, labor-saving machines on a plan whereby it will earn its own cost and more before you pay. You won't feel the cost at all.

$24 BUYS THE NEW BUTTERFLY

No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of only $2 down and a year to pay.

Patented One-Piece Aluminum Skimming Device, Rust Proof and Easily Cleaned — Low Down Tank — Oil Bathed Ball Bearings — Easy Turning — Sanitary Frame—Open Milk and Cream Spouts.

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You can have 30 days FREE trial and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it along side of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your $2 deposit and pay the freight charges both ways. You won't be out one penny. You take no risk. Postal brings Free Catalog Folder and direct from factory offer. Buy from the manufacturers and save half. Write TODAY.

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Price, On Trial, Guarantee, Reliability and Protection are features which make the American Cream Separator stand supreme in its field today. $15.95 buys a new easy running, perfect skimming separator that skims warm or cold milk and makes heavy or light cream. Sanitary "marvel" bowl, easily cleaned. Thoroughly protected gears. Picture illustrates our larger capacity machines. Backed by a 20 Year Guarantee reliable company. Western orders filled from western points. Whether your dairy is large or small, write for catalog at once. Address

AMERICAN SEPARATOR CO., Box 2079 Bainbridge, N. Y.

$7.75 Buys this New 1915 Model Reliance 150-Egg Incubator With 150 Chick Brooder $10.50

Freight Paid East of Missouri River and North of Tennessee. Good allowance in other territory.

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Order direct from adv. on our money-back guarantee of satisfaction, or write quickly for full details. We save you $10 now. We furnish fertile eggs for hatching if desired. Ask for prices.

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13 more championship won by owners of Belle City hatching outfits. Makes

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21 Times World's Champion Free Book "Hatching Facts" tells whole story. My $300 Gold Offers come with outfit shown in actual colors, Jim Rohan, Pres

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Belle City Incubator Co., Box 73 Racine, Wis.

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140 EGG INCUBATOR CHICK BROODER Both For $10

Both are made of Calif. Redwood. Incubator is covered with asbestos and galvanized iron; has triple walls, copper tank, nursery, egg tester, thermometer, ready to use. 30 DAYS' TRIAL—money back if not O.K. Write for FREE Catalog Now.

MONCLA DINCUBATOR CO., Dept. 47 Racine, Wis. (2)

112-PAGE POULTRY BOOK FREE

If you are thinking of buying an insurable incubator or brooder you should get our big 1916 catalog. It tells all about the new 1916 improvements on (16)

PRAIRIE STATE Incubators and Brooders

Also contains about 60 pages of poultry success secrets—how to feed, rear and breed; treat diseases, erect poultry buildings, poultry winter feed, etc. Most practical book ever offered FREE. Write for it TODAY.

Prairie State Incubator Co., 102 Main St., Homer City, Pa.

SHOEMAKER'S BOOK on POULTRY

and Almanac for 1916 has over 200 pages with many colored plates of birds true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about Incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 968 Freeport, Ill.

Crown Bone Cutter

BEST MADE Lowest in Price

FEED your hens cut green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have cut bone fresh every day for your poultry. Send at once for free catalogue. Wilson Bros., Box 238, Easton, Pa.

SUCCESS WITH POULTRY. Our book on how to feed for profit has description of Poultry Houses and Plans; pictures of our farms and fowls. It is worth dollars to you. Send for ten cents cash or stamps. We are the largest breeders of poultry in the world United Poultry Farms, Box 33, Hope, Ind.

57 BREEDS Fine pure bred chickens, ducks, geese and turkeys. Northern raised, hardy and very beautiful. Fowls, eggs and incubators at low prices. America's greatest poultry farm. Send 4c for fine 100-page 21st Annual Poultry Book.

R. F. NEUBERT CO., Box 843, MANKATO, MINN.

WE PAY $36 A WEEK AND EXPENSES TO men with rigs to introduce poultry compound. Year's contract.

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Wisconsin Wins In Big Hatching Contests EVERY YEAR

130 Egg Incubator 150 Chick Brooder BOTH For $10 Freight Paid East of Rockies

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Wisconsin Incubators won in 1910, 1911, 1912, 1913 and 1914 in National Hatching Contests—Thousand of machines competing. Catalog tells all about it—and why Wisconsins are winners. If ordered together—

BOTH MACHINES $10—Freight Paid East of Rockies

Wisconsins have hot water heat, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under tray. Incubator and Brooder shipped complete with thermometers, lamps, egg-testers, all set-up, ready to use when you get them. Incubators finished in natural color showing high-grade Calif. Redwood lumber we use—not painted to cover up cheap material. Send for catalog and we will send you a sample of the material, then you can compare it with the kind others use. If you will do this we know you will order a Wisconsin. Money back if not satisfied.

Wisconsin Incubator Co., Box 20 Racine, Wis.

POULTRY

FOOD AND FEEDING

Never feed sour food.

Fowls are fond of raw apples.

Wheat is the best egg food; oats next.

Damaged grain is not fit for poultry food.

Barley is a good egg grain, but the poultry quickly tire of it.

As a rule the hungry hen is in a healthy condition.

Rye has practically no value in the poultry bill-of-fare.

Coarse bran is to be preferred to the fine stuff so generally sold.

Manure piles are not the best places to raise and maintain stock.

Dried brewers grains, fed every other day, make a good change in the egg diet.

It is better economy to have a few hogs to feed on the waste chicken feed than a few hens on the surplus hog food.

Do not forget the fact that food flavors both the egg and the meat, consequently onions and fish are not apt to give either eggs or the carcass an appetizing taste.

A FEW DUCK FACTS

The consistency of the mash food should be soft, but not sloppy.

At four weeks of age the duckling should weigh about two pounds.

It is well to have fresh drinking water before the ducks both day and night.

Never make sudden changes in the bill of fare, or it may throw the stock off their appetites.

In making a selection of breeding stock, size of frame, length of body, and general activity should be sought for.

The germ in the duck egg developes more rapidly than in hens' eggs, and the first testing can be made after four days' incubation.

Unlike hens' eggs, you may help a slow duckling out of the shell with safety, and it may turn out to be the best in the flock.

Ducklings do not crowd in the brooder as do chicks, but lie separate and flat. They do not require as much brooder heat as do chicks.

As duck egg shells are very thick, they are more slowly affected by heat or cold. They retain the heat better than hen eggs, and consequently are more difficult to cool down.

For the first three weeks after laying, duck eggs do not show a strong fertility, but after that the fertility is decidedly better than that of hens' eggs.

FOWLS NEED TONICS

There are times when the system of the fowl needs toning up. This is noticed during the time they molt, and during the winter when the weather is damp, or when colds are more or less prevalent with the stock. Tincture of iron is quite frequently used, and so is permanganate of potash.

The value of permanganate of potash in cases of heavy colds is becoming more recognized. It is used as follows: Dissolve two ounces of permanganate of potash in six and one-half pints of water. Completely submerge the fowl's head in this solution, and hold it there as long as the bird can endure it without choking to death. This will cause it to sneeze, thus forcing the solution through the nostrils when it comes in contact with the diseased parts. Repeat two or three times, morning and evening. Next dilute some of the same solution with four times as much water and give it to the fowls to drink, allowing no other water.

Old-time poultrymen put great faith in Douglass mixture as a tonic, and time has proved that it is a good one—excellent in the spring of the year. It is composed of sulphate of iron, one-half pound; sulphuric acid, one ounce; water, two gallons. This is added to the drinking water in the proportion of a teaspoonful to a pint of water, which gives the latter a rusty appearance.

Some of the old-time authorities claimed that Douglas mixture was not only a bracing tonic, but, to a certain extent, guarded against roup, gapes and diseases of the bowels. It is is also invaluable during molting season. It can be made and set away in bottles or glass jars, to be ready when wanted. Those using Douglas mixture in the drinking water, should be careful that zinc vessels are not used. The sulphuric acid eats the zinc and makes the drinking water poisonous.

THE BREEDING PEN

Now is a good time to mate up the fowls intended to breed from the coming season. This will give them a chance to become thoroughly acquainted. We do not favor large flocks. Better results are always obtained from well-managed small families.

Our pens contain ten hens each, and for strong fertility we alternate male birds in the pens. This can be done in a number of ways. Some favor changing males in each pen once a week; others favor changing twice a week and still others prefer daily. The idea of alternating is that it does not

give either males or females a chance to have favorites.

It is a fact that a male bird continually in a flock is very apt to pick out certain hens which he will take care of, but will ignore all others. On the other hand, females are apt to form a dislike for a certain male and will refuse to cohabit with him. Needless to say this will be the cause of a certain number of infertile eggs. Now by changing the males those hens being previously neglected will at once take up with the new male, and he, being a stranger to the flock, will be glad to at once form their acquaintance.

The size of the pens has much to do with the fertility of the eggs, as well as strong chicks. For the Wyandottes (and it would be the same for Plymouth Rocks and Rhode Island Reds), we use but ten hens in each pen. For Leghorns we use fourteen hens, and for our Brahmas we mate but six females to a male.

MADE MONEY WITH POULTRY

A farmer, who is a friend of the writer, and lives eleven miles from Springfield, supports the expenses of his house, the clothing for his family, and sends one or two of his children away to school each year, and in addition to all this his wife has several hundred dollars in the bank—all of this in profits from the Poultry-Raising department on their farm. They farm about 120 acres. Ten years ago this farmer did not have a cent in the world. He bought his farm, and now has it all paid for. Of course, this was not accomplished by poultry raising, but as above stated, the poultry department of his farm has been a big money maker, paying much of the whole expense.

RECORD-BREAKING FOWLS

All previous records have been broken in the National Egg-Laying contest which closed December 1 at Mountain Grove, Missouri. Lady Laymore, a Single-Comb White Leghorn, from Nebraska, tied the world's trap-nest record for an egg-laying contest. She laid 286 eggs, beating Lady Showyou's performance by five eggs. The English pen of S. C. White Leghorns won the Grand Championship with a record of 2296 eggs.

During the contest 115 hens laid more than 200 eggs each. A S. C. White Leghorn first with 286; a White Wyandotte next with 265, and a Barred Plymouth Rock third with 254.

T. E. Quisenberry, Director of the State Poultry Experiment Station, in his report of the contest says:

"Why is it that some pens have a single hen in the pen of ten hens that will make a very high record and the remaining birds in the pen will be below the average? We think it is due to the fact that a poultryman like Barron has given much thought and much time to the question of selection and breeding for egg production. Such breeders have done some trapnesting, some pedigreeing, and they know the kind of males and females that they are breeding from. Such poultrymen have selected and bred from 200 egg males, that is, males bred from hens with 200 egg records, so long that they have fixed the egg laying characteristics and the egg laying ability in the entire flock, so nearly that practically all their hens average well and make good records, barring sickness, accident, or improper methods of feeding and housing, while the other fellows have bred more or less promiscuously and unknowingly. Therefore, they only get an occasional high hen.

"A good fancier might see an exceptionally beautiful bird exhibited by an amateur, but not knowing whether the bird had a line of good breeding back of him, a good fancier would not give much for such a bird to cross on his flock because the bird's good points might not be fixed by years of breeding, and he might not be able to transmit his good qualities. The same is true in breeding for egg production. In some pens, practically every bird gives evidence of years of careful selection and breeding, and another pen has only an occasional good bird which shows that these good qualities are not so firmly and uniformly fixed in the flock. Mr. Poultryman, know the history and the pedigree of at least a few of your best breeding males. It pays."

Next month we will tell you much about the best methods of conducting the poultry department of your farm with regard to hatching and feeding.

Most of the risk in the poultry business is in the hatching and raising of the young chick. Experts have overcome a great many of the difficulties, so that most anyone can raise chickens with ease and profit. Our advice is to raise poultry for eggs, and you will lessen your risks and get better profits. Fresh eggs are always in demand at high prices.

Enough goes to waste on many farms to properly feed 200 or 300 chickens the year around. No one has such a grand opportunity to go into the poultry business as the farmer, and we believe no one neglects it more than he. Why not buy an incubator this spring, and get some good, choice pure-bred eggs, and start a real poultry department on the farm? Study the advertisements and inquire.

During the next two or three months there will be advertisements in this paper of incubators and various breeds of poultry from which any one of our readers can obtain all the necessary information and help for a start. We advise you to write to these advertisers for their booklets, and you will find much that is interesting, and many hints and helps that will start you properly in this profitable business.

The most profitable thing in your poultry department will be the eggs produced. There is more profit in eggs by far than there is in raising poultry for the food market. If you raise just broilers you get no profit except the meat profit. But if you plan your poultry business so as to produce eggs in quantity you really have four sources of profit. First, there is a market all the year; second, you can select hatching eggs that will bring you fancy prices on account of the purity of the breed; third, the raising and selling of baby chicks is highly profitable, and fourth, in the course of your breeding you will find many fancy fowls that you can sell at especially high prices.

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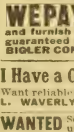

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Preparing For Seed-Time

Clean, Carefully Selected Seed Means a Bountiful Harvest

By Lester J. Meredith

CLEAN GRAIN

In our efforts to control weed growth at Riverside Farm we have purchased a fanning-mill, and make it a practice to clean all of our small grain before feeding it to stock or using it for seed. We could not get our grain cleaned without paying for it, but now that we have a fanning mill the work can be cheaply and conveniently done at times when the weather is unfavorable for outside work. The fanning mill soon saves the price we would otherwise have to pay for grading, and we have all of the screenings at home for feeding the sheep and poultry.

I believe that it pays to clean all grain, not only the seed, but grain to be fed to stock. It prevents foul seed from going back to the ground with the manure, where it will cost more than the price of the machine to get rid of it. Besides, the time one loses in driving back and forth after a fanning mill and returning it, would pay for it many years before the machine was worn out. Then many times one will promise himself to grade the seed before seeding time, but when the rush of work is on in the spring the seed goes into the ground without cleaning or grading of any kind.

It is almost impossible to get anyone to take the same pains in grading seed as we do ourselves. Of course, there is not much to be made in grading grain before selling it in the general market, but by grading our own seed we can materially increase our yields. The corn crop of the country has been increased millions of bushels by selecting and grading the seed corn. All other field grains can be made to produce increased yields by planting large, plump seeds free from foul weed seeds.

Such work can be cheaply and efficiently done with a fanning mill. They are so arranged that all kinds of grain or grass seed can be cleaned. If you decide that it will pay to sow good seed, that it will pay to prevent any more weeds getting on your farm, either through the manure or seed, that it will pay to make each acre yield the fullest returns for each dollar of capital and labor expended, then a fanning mill will prove a necessity. We must not only kill weeds but we must shut out the seeds from our fields whenever it is possible. The anti-weed campaign is incomplete without the use of a fanning mill.

HOW MUCH SEED PER ACRE

For the past five years we have experimented to determine how much small grain seed to sow per acre at Riverside Farm to secure maximum yields. As a result of these field tests we have settled down to seeding six pecks of wheat and three bushels of oats. These amounts seem to give the best results. To what extent other farmers should vary from these amounts will depend upon the circumstances I am about to explain.

If one is seeding clover and timothy with oats or spring wheat it will, undoubtedly, pay to sow a smaller quantity of seed so as not to weaken the stand of clover and grass, and if possible sow early maturing varieties, as the cutting of the nurse crop when the weather is hottest often proves fatal to the young clover and timothy plants. As a general proposition I believe that it will pay farmers to sow one-third less grain seed when seeding clover and timothy, and be content with a smaller crop of grain. In the case of rye and winter wheat there is little difference in the quantity of seed to the acre, particularly as these grains are removed in time to prevent shading, and allow the clover and timothy plants to establish a good growth before the hot weather checks their development. Then again the time of seeding spring grains must be considered. If the grains are sown early there is more chance for stooling, and a smaller amount of seed is advisable.

Soil fertility is another problem that should be considered in determining the quantity of seed to sow per acre. Some soils will produce maximum crops

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with a lighter seeding, and there will be more plant food left for the clover and timothy seeding. On very rich soils thick seeding often prevents too rank growth of straw, and results in correspondingly greater yields of grain. If the grain is properly drilled, and covered at a uniform depth, a good stand will result from a lighter seeding than is the case where the work is done in a slovenly manner. In sections where the rainfall is likely to be light the lighter seeding will mature more bushels of grain than is the case where the soil moisture is used up in producing more straw.

The quality of the seed is another matter that must be given due consideration. If the seed possesses high germinating qualities, and is properly cleaned and graded, fewer seeds will be required to give a satisfactory stand. But if the seed is graded so that only large, plump seeds are sown it will require a greater bulk to furnish an adequate number of stalks per acre, so I think that as a general proposition one should sow as many pecks of heavy, graded seed to the acre as is the case when sowing uncleaned seed. It will, therefore, be seen that there are several things to be considered in deciding how much seed to sow per acre to obtain maximum yields and profitable results from the clover and timothy seeding.

ALFALFA ON SANDY LAND

At Riverside Farm we have been up against the proposition of building up several acres of sandy and gravelly soil. Acting upon the idea that crops grown to add to the supply of organic matter should also add to the nitrogen supply as well, we began by plowing under a crop of soy beans in the fall, planting early potatoes, and plowing under another crop of soy beans.

After plowing under the second crop of soy beans we limed the field at the rate of about 40 bushels of burnt lime to the acre, and applied a fertilizer mixture made up of two parts bone, three parts acid phosphate and one part muriate of potash in the fall, and seeded alfalfa the next spring. The alfalfa made a partial stand, but it was cut down by the drouth so that the field required reseeding. By plowing under the alfalfa, and giving the land a dressing of stable manure, ten loads to the acre, we again seeded it to alfalfa and secured a good stand. It is my judgment that under normal conditions the addition of two or three green manure crops, lime and phosphorus will make it possible to grow paying crops of alfalfa on sandy land.

One precaution should be very carefully observed, and that is to see to it that on soils where attempts at improvement are made in this way an abundance of lime and mineral fertilizers, especially, shall be supplied, so that the alfalfa will find plenty of available plant food and congenial soil conditions to make a vigorous root growth the first season. The alfalfa crop must have plenty of mineral plant food to enable it to take advantage of the supply of nitrogen in the air. No crop can serve as a nitrogen gatherer and permanently build up the soil, without having at its disposal an abundance of mineral food. Soils naturally poor must be built up.

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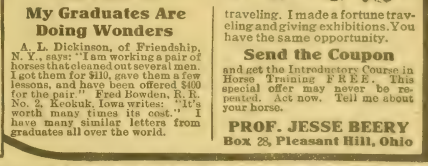

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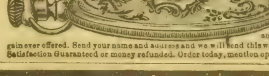

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Developing Dried-Fruit Industry

"Made in America" Product Much Superior to the Foreign

By Alvah H. Pulver

THE popularity of dried fruits is increasing in leaps and bounds. Fresh fruit, with its short-keeping qualities, its bulk in shipping, and storage room necessary in proper handling, are factors certain to more and more make a sure place for dried fruits in the economical adjustment of the dietary list of the future. From one small village in Wayne County, New York, over two hundred cars of dried apples were shipped in just half of last season—enough to make seven freight trains of thirty cars each.

Besides rendering the fruit more compact, drying has the added value of protection against decay, and also yields a product at once palatable and convenient. The sugar content of the food is turned to a preservative, with the food value increased by concentration through dehydration.

Apples and berries were dried in colonial times, and as such, served a prominent part in winter menus. The Indians were familiar with the art of drying the fruit, though their methods were crude. Apples, peaches, apricots, prunes and many other varieties of fruit are now dried by improved methods, giving an immense expansion to the industry. The fuel and equipment cost is more than offset by the economy of time and labor, besides obtaining a greater cleanliness and uniformity of the fruit.

The food value of a pound of dried fruit is, of course, greater than that of a pound of fresh, since much of its water is evaporated. Some other changes also occur, varying with the amount of heat employed. Sometimes the change is akin to the natural process in ripening. The most extensive changes occur to the carbohydrates forming the largest part of the solid matter. Starch is changed to sugar. The crude fiber is changed or softened. Some of the volatile oils affording distinctive flavor to fresh fruits, pass off or are modified, and the fruit acids are lessened, withdrawing much of the puckery flavor from the tannin. It has been estimated that each person in the United States consumes on an average from six to eight pounds of dried fruit each year.

The main thing in the evaporation is to have the fruit dried so that it shall retain as much of the natural flavor and food ingredients as possible, together with soft texture, attractive appearance and freedom from insects and dirt.

Raisins and figs are best dried in the open air. The two foes here are dust and insects. Dust may be the bearer of all sorts of micro-organisms, causing disease, and of other organisms causing decay of the fruit. Insects are liable to be attracted by the sweet viand and, laying their eggs on it, plant the way for future worms. These dangers are safeguarded by sterilizing the fruit and selecting good drying places. American fruit growers are setting high standards of cleanliness, thereby putting a premium on really sanitary goods. Such conditions do not uniformly obtain in the Mediterranean district, producing so large a part of the world's dried figs and dates.

Preparing dried fruits for the market is a complicated process. If the process of drying is too rapid or too slow the completed product will be below standard. Rapid drying by modern methods is preferable, in that it gives better flavor and color. The majority of fruits are dried without the addition of any foreign substance. Sugar is sometimes added, the fruit then being "candied" or crystallized. The delicate, natural flavor is largely retained by this process.

The increasing extent of the use of dried fruits is shown by most interesting statistics. In 1899 the amount

The big plants will handle 1,000 bushels of apples daily

of dried fruit produced in all America was about 85,000,000 pounds, valued at $4,757,000. In 1909, ten years later, the output was 484,000,000 pounds, valued at $21,915,000. In this time the average wholesale price dropped from five and one-fourth cents to four and one-half cents per pound. Until recently 83 per cent of the dried fruit produced in the country came from California.

In preparing apples wonderfully dextrous machines peel, core and sometimes slice the fruit at a single operation. Often the slices are dipped in a solution of salt and water for a few minutes to prevent discoloration when exposed to the air, though this practice is not generally followed in New York. The fruit is then subjected to a short bleaching process with sulphur, making it of a lighter color and destroying the last chance of a clinging insect.

The drying process lasts from ten to twelve hours, varying with apples, weather, service and other incidentals. A day's output is placed on the kiln floor after supper. The slices are gently placed out on the floor, covering it to a depth of six or eight inches. A good heat is then used for an hour or so, and the fires banked for the night. Early the next morning an attendant should carefully shovel a path through with an ordinary snow shovel, working back and forth until all the flooring is carefully turned. A pair of rubbers should be kept near the kiln floor and used exclusively for kiln work.

An average yield of the finished fruit to the bushel of apples is about seven pounds. The pure-food statutes permit a maximum moisture content of 27 per cent. It is said that while this does very well in many parts of the country, yet in others the excessive moisture permits the fruit to go sour and in other ways "fall down," while in some parts of Europe the fruit is not sold because it does not "stand up" for any length of time.

A still newer system than the kiln method for drying fruit, and one that is now being tried out in New York, is called the dryventor system. Some conspicuous successes have already been made with this system, which does not stop at fruit, but takes on the dehydration of many kinds of vegetables as well. By this process only the water is taken out, and the aromas, essential oils and flavors are left.

In construction the dryventor consists of the chamber in which the fruit is to be dehydrated, the blower and the coil or air standardizing chamber. In this chamber is the apparatus for extracting the moisture from the air, and afterwards heating it to the desired temperature. One vital difference in this system from all others is the continual blast of air from the blower which operates to carry off the moisture as liberated by the heat. Fifty thousand pounds of apples daily can be dehydrated in a plant occupying approximately a space of 500 square feet. Lima beans, sweet corn, pumpkins, horseradish, grapes, and even celery and potatoes may be dehydrated by this method. Cold water is all that is required to bring the product back to its first state. For some years the American navy has been using dehydrated onions and other vegetables on the long cruises.

Raisins, Sultanas and dried English currants are made from special kinds of grapes. Somewhat of a confusion exists between small raisins and currants. The Sultanas are made from a small white seedless variety of grape. English currants are really small varieties of grapes from Greece. Spain furnishes the largest imports of raisins to America, though the importance is rapidly falling off as the California field is being developed with amazing vigor.

Dried fruits that are sanitarily clean will increase in popularity every year. Thousands and thousands of bushels of fruit that went to waste this season could have been profitably dehydrated and put on the market at attractive prices. We are just learning the principle of caring for fruit and vegetables minus the water. Who will say that inventive genius will not soon provide even the small outfit whereby the man whose farm is his garden may swiftly and securely conserve its harvest for winter and late spring use, making of it an all-the-year service?

Managing the Business of 8,500,000 Telephones

Imagine a manufacturing business having millions of customers scattered over the country, with millions of accounts on its books, most of them less than $30 a year, and including a multitude of 5-cent charges.

Consider it as having shops and offices in thousands of cities, and reaching with its output 70,000 places, more than there are post offices in the United States. Think of the task of patroling 16,000,000 miles of connecting highways constantly in use.

This gives you a faint idea of the business of managing the Bell System.

Not all the 8,500,000 telephones are in use at once, but the management must have facilities always adequate to any demands for instant, direct communication.

In so vast an undertaking, every branch of the organization must work in harmony, guided by one policy. The entire plant must be managed in the light of accumulated experience, and with the most careful business judgment.

The aim of the Bell System is to make the telephone of the utmost usefulness. This requires an army of loyal men and women, inspired by a leadership having a high sense of its obligations to the public.

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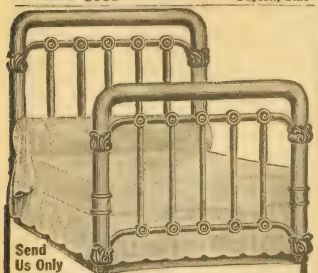

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The HOUSEWIFE

FRENCH KNOTS

French knots may be put to so many and such varied uses that the simple art is well worth mastering. Besides combining with other stitches in embroidery and various fancy work, they form in themselves a dainty and effective decoration for children's dresses, etc.

To make French knots, knot the thread and bring it up through the material; then take an ordinary short backstitch, and before bringing the needle entirely out of the material wind the thread two or three times around the needle (according to size of knot desired), and, holding the coils down with the left thumb, draw the needle through. Then insert the needle through. Then insert the needle over the edge of coils in the same hole, making the knot secure. Carry the thread on the wrong side of the material on the next knot. without cutting.—Annabell Turner.

SALADS FROM CANNED OR LEFT-OVER VEGETABLES

Canned or left-over vegetables may be well utilized in salads. Creamed peas, carrots, etc., may be washed free of the sauce by pouring cold water over them.

When several vegetables are used in the same salad they should be marinated separately and arranged for serving just before sending to the table.

If just a suspicion of garlic or onion is desired, rub the sides of the bowl with the cut surface of a clove of garlic or extract the juice from an onion by rubbing it over a grater.

To marinate, pour French dressing, or dressing made of vinegar, sugar and salt, over the salad, set away in the ice-box for an hour or two, then drain and add either boiled or mayonnaise dressing.

Green vegetables and fruits should be mixed just before serving. If allowed to stand in the salad dressing even for a short time the greens wilt, the fruit loses juice and the dressing becomes watery.

In combining salads toss the ingredients, using a spoon or fork or two spoons, but do not stir. Stirring breaks the pieces of food, and makes the salad mussy and unattractive.

Bread and butter, wafers, rolls, or slightly sweetened cakes are served with salads.—University of Wisconsin.

COFFEE CAKE

When you make the white bread dough, reserve a lump of it as large as your fist. Slightly grease the hands, take it in them, and roll it out between the palms in a strip eighteen inches long. Curl it round and round in a greased pie-pan, patting it out flat, and sprinkle sugar and cinnamon thickly over the top. Set to rise, and bake. It is appetizing and crusty.—B. H. N.

OXALIC ACID AS CLEANSER

For cleaning brass and copper very quickly and easily, oxalic acid is very good indeed. A cloth moistened in a strong solution should be rubbed over the article to be cleaned. Let stand for a minute or two, then rub with any polishing agent, using the oxalic solution to moisten the polisher, instead of water. Rinse with plain water, dry thoroughly, and if an extra bright finish is desired, polish with dry chalk or silver-polish powder. This is especially good for faucets, sink drains, etc., or when an article has tarnished very badly. Mrs. L. V. Howe, N. Y.

LITTLE KITCHEN CONVENIENCES

I find brushes of different sizes of great convenience in the kitchen. I use long-handled paint or varnish brushes for greasing pans, for glazing over the bread with milk or butter, for cleaning out cans and such like. Larger brushes are used for cleaning the sink, milk vessels and tables. I use a brush for cleaning vegetables, and I also use brushes in washing dishes and pots when I wish to save my hands.

I always keep on hand a stock of asbestos mats and paper. I find the mats valuable for putting under pans and pots to prevent burning of food; and the paper is used for putting over dishes in the oven when there is danger of them burning on top. I also use it in iron holders, and in mats for the table, making the covers so that the asbestos can be removed.

One of the greatest conveniences I have in my kitchen is a chiffonier, in the drawers of which are kept strings, paper bags, wrapping paper, small kitchen tools, scissors, pencils, and things so often needed in the kitchen, but very seldom found there.

Chamois skin is an excellent thing to have about the house, especially in housecleaning time. It is fine for polishing windows and mirrors. The piano can be cleared and polished with it without doing it any harm. Dip the skin in clear, cold water and wring out until as dry as possible; then rub the piano hard with it. When the chamois becomes soiled rinse out before proceeding further.

White spots can be removed from furniture by first rubbing hard with a cloth saturated with kerosene; then pour on a little alcohol or camphor and rub dry with a clean cloth, and the spot will have disappeared.

If furniture has become rubbed in places sandpaper it until smooth, then swab lightly with paraffin oil, stain the color of the wood, and finish with varnish to match the finish.

If nail holes show in wall paper where nails have been removed, fill up with plaster paris, and touch up with a little paint the color of the background of the paper, or paste a small piece of wall paper over it.

ABSOLUTELY one of the finest premiums ever offered. This beautiful, full-size 31-piece dinner set consists of 6 large plates, 6 small plates, 6 cups, 6 saucers, 6 butter plates and one platter, all handsomely decorated in violets and bordered in gold. Absolutely perfect in color, glazing and decoration. And

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A GOOD LIGHT

Trim your lamp wick with sharp scissors the shape of the burner, with a small V cut in the center, and you will have a clear light without any smoke.

COTTAGE CHEESE SALAD

Mold creamy cottage cheese into balls with the hands. Serve each ball on a slice of pineapple on a bed of lettuce cut into ribbons with the scissors. Dust lightly w'h paprika. This is delicious and unusual.—Erma S. McMahan, Indiana.

HANDSOME FULL-SIZE DINNER SET FREE TO EVERY LADY WHO WRITES US

YOU NEED NO MONEY. We Trust You with Our Goods. THE MOST GIGANTIC OFFER OF THE CENTURY Ever Made by an Old Established House. READ AND BE CONVINCED. WE PREPAY FREIGHT On Soap, Dinner Set and Premiums.

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of extra quality and finely perfumed, giving as premiums, with each box of 7 large cakes, *Baking Powder, Perfume, Talcum Powder, Teaspoons, Shears* and *Needles*, (as per Plan 400) illustrated above. QUALITY as well as QUANTITY are in this offer, as we buy in such large lots we can give you more good goods for less money than any other concern. OUR PLANS SELL AT SIGHT. One pleased customer brings another and with our other *Baking Powder, Tea, Coffee, Spice, Extract, Perfume* and *Soap Offers*, you will get duplicate orders and earn some of our many useful premiums such as Dinner Sets, Toilet Sets, Linen Sets, Silverware, Clocks, Furniture, Graniteware, Rugs, Dry Goods, Wearing Apparel, in fact, anything you need. We also pay large cash commissions. **WE PREPAY FREIGHT** on Soap, Dinner Set & Premiums, allowing plenty of time to examine, deliver and collect before paying us one cent. No license needed. We protect you. Our methods are honest. Satisfaction guaranteed. Reference: First National Bank, Provident Bank, Postmaster. Write at once for **FREE SAMPLE OUTFIT** and other things. If after receiving them, you decide not to get up an order, you may keep everything we send you FREE of charge for the trouble in answering this advertisement.

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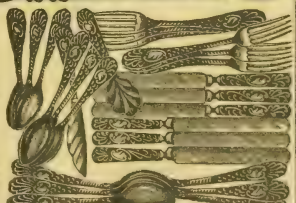

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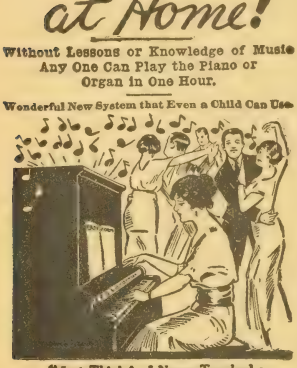

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Impossible, you say? Let us prove it at our expense. We will teach you to play the piano or organ and will not ask one cent until you can play.

A musical genius from Chicago has invented a wonderful system whereby anyone can learn to play the Piano or Organ in one hour. With this new method you don't have to know one note from another, yet in an hour of practice you can be playing your favorite music with all the fingers of both hands and playing it well.

The invention is so simple that even a child can now master music without costly instruction. Anyone can have this new method on a free trial merely by asking. Simply write saying, "Send me the Easy Form Music Method as announced in FARM NEWS.

FREE TRIAL

The complete system together with 100 pieces of music will then be sent to you Free, all charges prepaid and absolutely not one cent to pay. You keep it seven days to thoroughly prove it is all that is claimed for it, then if you are satisfied, send us $1.50 and one dollar a month until $6.50 in all is paid. If you are not delighted with it, send it back in seven days and you will have risked nothing and will be under no obligations to us.

Be sure to state how many white keys on your piano or organ. Do you play old-style note music? Give home address, street and number or R. F. D. Address

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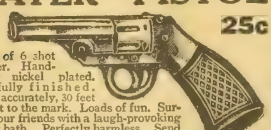

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Comment on Fairs

(Continued from Page 8.)

refreshment stands paid the expenses of the fair.

The success of the last fair was so encouraging that we are now planning for a larger fair, and expect to hold it for two days next September. This county has received a great deal of benefit from this fair. It is not run to make money, but for the promotion of friendly rivalry, which will act as a stimulant to renewed effort on the part of our farmers.

Our community club has done much good, getting work for many of its members, helping the sick and other laudable efforts, besides cultivating the spirit of individual help among its members, much of which has been done quietly and in a private way.

PLENTY OF PASTURE FOR PIGS

PIG pasture days are coming. Are you prepared? Have you mapped out your sequence of forage crops that will furnish profitable grazing for the porkers from May until November?

When more farmers recognize the value of a rotation of forages for swine they will more nearly realize maximum incomes from their hogs. It is not enough to let the hogs run at liberty here, there and everywhere over the farm. It is essential that the pasture crops be adequately fenced, and that hurdles be used in "hogging off" the green stuff in order to curtail needless waste.

Rape is one of the leading forage crops for pigs. It can be planted as early as spring oats, and sixty days after it is sown the crop is ready for grazing. It is advisable for the farmer who raises rape continuously for grazing purposes to seed two patches of ground in alternation. While rape is growing in one plot the other patch should be grazed. Red clover, alfalfa, cowpeas, soy beans, vetches and green corn, hay-crop aftermaths and winter wheat and rye may also be advantageously included in the hog pasture schedule.

It is of fundamental importance to supply the swine with continuous grazing from early spring until late fall. Personally I like to start my hogs on a mixture of spring oats and rape, seeded as soon as the land is in order for such operations. Next I sow a patch of rape which will be available after the oats and rape are consumed. If necessary I sow a second patch of rape about two weeks after the first one. The latter part of May I plant a mixture of four pecks of cowpeas to one peck of soy beans to the acre. As soon as some of my drilled corn is of sufficient size I hurdle off a little patch and use it as hog forage. I also sow cowpeas and soy beans broadcast ahead of the cultivator at the last working of the corn, as about the time the corn is ripe enough to be "hogged off" the peas and beans are also in shape for grazing. They furnish plenty of protein, while the corn supplies carbohydrates and fat, so that the grazing swine are provided with a balanced ration.

All of the clovers, as well as alfalfa, provide excellent hog pasturage. The swine also revel on the aftermath of

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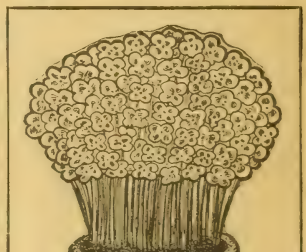
THEY START TO GROW IN 48 HOURS



It is very amusing and interesting to start several of these queer plants and watch them race each other in growth. This is an European novelty of rare interest. One of the strangest of Nature's wonders. The seed and soil are chemically treated so as to promote growth. For a limited time we will send one of these Posy Fairy Plants free to any person sending us only 15 cents to pay for a six months' trial subscription to our big monthly magazine, or two plants and 12 month's subscription for 25 cents.

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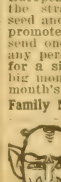

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Family Publishers, Dept. FM. Springfield, Ohio

the hay fields. Rape may be sown very late to supply fall grazing, as this crop succumbs only before a very severe frost. After the rape is exhausted areas of winter wheat or rye may be accessible to the swine. The longer the green crops can be fed the better. They cut down the feed bill, and maintain the porkers in fine, healthy condition. Forage-crop pork fattens rapidly, and kills with a minimum of waste and shrinkage.

MEASURING THE HAY STACK

By George H. Dacy.

IT IS difficult to estimate the amount of hay in a stack. Even to the experienced hay-grower the eye affords only a hit-or-miss guess at the exact contents of the stack.

Often hay is sold by the stack instead of by tonnage. It is to the advantage of both the seller and buyer to determine, even approximately, the tonnage of the stack.

The method which I used is not wholly accurate. It is, however, as reliable as any system of estimation, insofar as there is no means of ascertaining how much the hay has settled, or what is the general condition of the long feed throughout the entire stack. The method will yield a result that is not more than ten or fifteen per cent out of the way. In my case the method proved entirely satisfactory. The stack figured to contain 3.02 tons of hay. When I hauled the hay home I found that I had moved about three and one-fifth tons.

To determine the content of the hay stack I first ascertained the area of the base of the stack. With a one hundred-foot steel tape I measured the circumference of the stack at its base. As this particular stack was round, one-half of the product which I obtained by dividing the circumference by 3.1416 gave me the radius of the base. The square of the radius multiplied by 3.1416 gave me the area of the base of the stack.

I next measured the height of the stack. I used a long pole for this purpose. Where one is much of a mathmatician he may measure the length of the shadow which the stack casts at twelve o'clock, and accurately estimate the height in that manner. The cubical contents of a round stack is obtained by multiplying the area of the base by the perpendicular height and dividing the product by 3. Under average conditions a ton of stacked hay will occupy about 350 cubic feet of space. A fairly close approximation of the tonnage of hay in the stack results where one divides the number of cubic feet in the stack by 350.

In case the stack is oblong, and built like a rick, it is a simple matter to reckon the area of the base by merely multiplying the width of the stack by its length. Where one is familiar with the settling and curing qualities of the hay which he purchases he will be able to estimate very closely on the exact contents of a certain stack. Estimating hay in the mow is still easier. All that is necessary is to find out the cubical content of the mow, and divide the product by 400, as one ton of well-settled mow hay will occupy about 400 cubic feet.

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FREE 30 Days' Trial

Send me no money in advance. I will ship you any *World Famed Adler Organ* you may select from my new, big organ book, for an absolutely free playing test—if it does not prove all I claim—just send it back to me—I will pay freight both ways and your trial doesn't cost you a single penny. *My World Famed Adler Organ* must sell itself after a free trial in your home.

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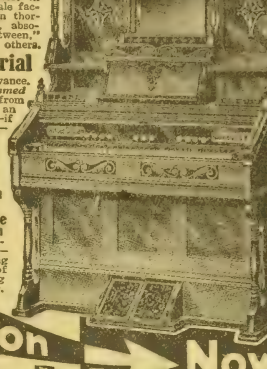

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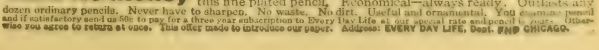

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Trapping

RIGHT at this season of the year the pelts of all fur-bearing animals are in their best state, and as a consequence command better prices on the market. Another thing is that most of the work, with the exception of feeding stock and routine chores, is done, and boys who live on the farm have great opportunities to make some extra spending money by trapping. Then there is always the fascination of putting your wits against those of the creatures of the wild. Some of them are as cunning as any human dare be, and when you do get their "hides" you will have something to remember for many days.

To be a successful trapper means that you must work with your head as well as with your hands and heels. Of course, there are some animals which are easy to catch, but they must be gone after, and it is no lazy man's job to run a line of traps. The first thing is to get a number of good reliable traps. Then test them out, to see that they are in good working order. The sizes of your traps depends upon what kind of animals you have in your locality. Traps are made for almost any use, and one can get any size and kind.

Probably the most prolific of fur-bearing animals is the muskrat. This little animal is found along nearly every stream or body of water, and is the first animal the beginner tries his cunning on. With a stream, a marsh or lake near, no difficulty should be experienced in locating a place to place traps for muskrat. Search carefully along the banks for the clawlike tracks, and then you will find a smooth path leading into the water. These are muskrat slides, and are the places where the traps should be set. The trap should be attached to a stake placed well out into deep water, for if it is not the chances are that the muskrat will gnaw its leg off and escape.

It is always best to have the stake in deep water, as in this way the muskrat is drowned. All aquatic animals, when caught in a trap, will dive for deep water. Muskrats are very fond of parsnips, carrots and other vegetables. One good way to set your trap is to place a piece of vegetable or apple in a bush, or fastened to something just above where the trap is set. This should be left just high enough so that the animal can reach it, and be placed in such a position that in reaching for the bait the animal will be brought over the trap. This method is very simple and effective. After one has learned the habits of the muskrat it is an easy matter to devise a number of ways in which it may be caught.

As soon as possible after being caught, the muskrat should be skinned and the hide stretched on a board, fur side in, to dry. Tacks may be used in stretching the hide, and after it has dried for a few days it is ready for market.

The skunk is one of the most easily captured animals, as he seems to rely a great deal upon his objectionable smell as a protection from natural enemies, and, incidentally, it also has a

considerable effect in protecting him from the human tribe. By exercising great care there is not much danger of being scented, and if one does, it can be easily removed by giving the clothes a gasoline bath.

During February and March is the best time to catch both the skunk and the civet cat, as during that season they are mating. It is not necessary to cover the traps for these animals like the rest of the fur-bearers, although when the trap is placed at the entrance to their den it is best to dig out enough dirt to bring the trap on a level with the run. As many as twelve to fifteen skunks have been taken from one den, so one should not take up the trap after one is caught. In trapping these animals many persons use a trap that kills when it catches. This does a way entirely with the odor, and on the whole is much more humane.

Some trappers arrange a V-shaped trap of logs, and place fish or raw meat of some kind at the farthest end of the V. Then they place the traps at the entrance. In case one is found alive in the trap, it may be killed without injuring the hide by shooting it with a small calibre rifle through the spine at the neck. The skins should be dried in the same way as the muskrat.

The raccoon is one of the animals which give the trapper some trouble to get. He is a clever little animal, and while he may be caught either on land or in water, it is easier for the amateur to try the water method first. A larger, stronger trap should be used for the raccoon, as he is very strong, and often, when caught in a large trap, gnaws the wood in two and escapes. All traps set for raccoons should be attached to a piece of hard wood, just large enough to allow him to drag it.

He has a keen sense of smell, and is always hungry, hence easily caught with the right kind of bait. But the trapper must be careful to obliterate all signs, and by trapping in shallow water he gets rid of the human scent. Fish make good bait for the raccoon, and traps may be set in paths leading to cornfields, but they must be well covered, and great care taken so as not to arouse his suspicion. The pelt should not be cased, but should be split down the belly, and nailed so as to stretch the hide well.

Good sets may be arranged in leaves for opossum, if a place can be found where there are signs. Fish or meat, hung in a bush over the traps will be found to be good bait. The traps must be covered with leaves. Fish oil, made by putting several pieces of fish in a jar or bottle, and letting it decay in the sun, also makes good bait for opossum. If the den can be found, traps may be set in the entrance without using any bait, and sinking the trap and covering it. The opossum should be skinned and stretched in the same way as the muskrat.

The fox is the craftiest of fur-bearers, and until one has had a great deal of experience in setting traps the time used in trying to catch Mr. Fox is wasted. The best way to trap the fox is to locate the signs around a small pool of water. Wade into the pool and set a trap near the shore, covering it carefully with moss. Then build on the pan of the trap with mud until it comes above the water. Place a piece of meat on a stone just beyond the trap. The fox in reaching for the meat will step on the mud cov ring the pan and so be caught.

Catalogs and pamphlets may be secured from fur dealers giving full directions for trapping and preparing furs. Trapping, in addition to furnishing a means for making money, also furnishes a change in regular employment, and so affords recreation and entertainment. Lots of Farm News boys make quite a bit of money by trapping during the winter months.

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DO YOU KNOW that there has been dug up from the ruins of old Chaldea a complete story of the flood—the same in every detail as Moses' account in Genesis—and that it was written thousands of years before his version appeared? Hardly one in a million has ever had an opportunity of seeing this startling story—HAVE YOU? But it is one of the many thousand curiously interesting accounts in

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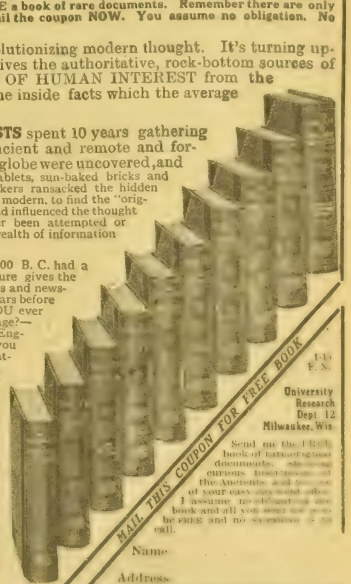

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Loss From Immature Corn

(Continued from Page 6)

Seasonal variations and various other conditions influence the maturity of the crop, but it is possible to partially overcome these conditions by developing a variety adapted to the soil and climate of our locality. Our first aim has been to produce the largest ears consistent with our soil and climate. The desire to produce big ears thwarted our plans for several seasons, but the selection of smaller sound ears has resulted in a larger crop of sound corn, until we have very little immature corn at harvest time.

The fact that many varieties that produce big ears do not yield more pounds of sound corn than varieties with deep grain and moderate or small cobs set me to thinking. For several years I conducted field tests by growing various varieties and planting medium-sized ears. The yield from the smaller varieties matured so evenly and the sorting discarded so little, that the amount of good sound corn was usually greater per acre than from the larger varieties, and always of superior quality than we made from the larger corn.

Our selection of seed is made from the standing stalks, just before the crop is harvested. The selection of sound ears from the early maturing varieties has resulted in producing a shorter, closely jointed stalk of stronger growth, so that fewer ears fall to the ground and become damaged. Our experience of the past few years goes to show that the early maturing varieties yield more sound corn to the acre than the late and uneven maturing varieties.

Some farmers are too much afraid that somebody who doesn't plow will teach them something they do not know about farming. This is a sensitiveness utterly unworthy of the hard-headed sense farmers are supposed to possess. A wise man is said to be one who is not ashamed to learn from anyone, even though his teacher be a child or a fool. Knowledge of worth is not always in the possession of those who are the most able to put it into practical execution. Few of the inventors or discoverers of new principles have been men who were very practical or successful in a hard-headed business sense. Keep an open mind, and let no little and narrow prejudices rob you of lessons which way be of great value.

He who always does his level best keeps rising to higher levels.

A man's secret sins are apt to multiply as fast as mites in a chicken house in hot weather

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Styles For January

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Description of Patterns Shown Above

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7003—Misses' and Small Women's Coat—The coat can be made in either the forty-five or thirty-nine inch length and in either the square or round outline at the front. Pattern cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

7017—Ladies' Waist—The waist closes at the front and can be made with either the high or low neck, and long or short sleeves. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

7020—Boys' Shirt-Waist Suit—Linen or madras can be used for the waist of this suit and serge or broadcloth can be used for the trousers. Pattern cut in sizes 4 to 12 years. Price, 10 cents.

7033—Children's Dress—The dress is made with the long waist effect. It closes at the back and can be made with either the long or short sleeves. Pattern cut in sizes 2, 4, 6 and 8 years. Price, 10 cents.

6995—Ladies' Apron—The apron is cut in one piece and can be made with or without the sleeves. Pattern cut in sizes 36, 40 and 44 inches bust measure. Price, 10 cents.

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7012—Ladies' Skirt—It is cut in two pieces, and can be made in the regulation or shorter length. The high or regulation waistline can be used. Pattern cut in sizes 22 to 32 inches waist measure. Price, 10 cents.

7026—Ladies' Dress—The dress closes at the front and can be made with either the long or short sleeves. The drop shoulder is used. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

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Illustrated Catalog and Discount List

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Write for Catalog and *Discount List*. P

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20 Post Cards, Birthday, Floral, Art, View, &c. 10c. Howard Brown, Dept F. Old Bridge, N. J.

Cash-Prize Winners in Farm News Boy's Work Contest

MAKES MONEY WITH AN OLD PLUG MULE

First Prize ($1.00) Contribution

By Artie Sharpe, South Carolina.

I want to give my experience that it may help some other boy do as I have done. I planted a little patch of corn this year, and layed by all the hay and grass that I could scrape up. I live three and a half miles from school, and my father was going to buy me a horse to drive, as I could not drive any of his. So I took an old "plug" mule to work for his feed, and I drive him to school. When I get home from school in the evenings, I hook him to a plow and help to plow some land for one of our neighbors. I get paid pretty well for this.

Saturdays I hitch my mule to a one-horse wagon, and load it with wood and other things, such as walnuts, pecans, vegetables or anything else I think I can sell. I always get rid of my stuff, and realize a right good sum every week. I am saving some of this to buy poultry and eggs to speculate on. Father says he can afford to give me a little to help me, as I saved him the cost of buying an extra horse. In this way I buy my books and try to be of as little expense as possible. I like to work and am trying to manage for the best. I will find some work for the old mule to help me make a little money all winter. As soon as I can I am going to buy some pure bred Rhode Island Reds, and will have them working for me winter and summer.

MADE $17.00 TRAPPING

Second Prize (75 Cents) Contribution

By J. Willis Hendrickson, Pennsylvania.

I am thirteen years old, and live in Pennsylvania, near the Mason and Dixon line. A year ago my uncle gave me a few traps, and set them for skunks. I went to look at the traps every morning, and much to my surprise I soon had caught five skunks and two opossums.

I kept on setting the traps and watching them, going to school in the meantime, until I had caught six more skunks. I received $17.00 for the hides. I have set my traps again this fall, and up to this time have caught two skunks.

MODERN DAVID HARUM

By Grady Ashman, South Carolina.

This is what I have done: I caught rabbits and sold them, making two dollars, and then bought a calf, two weeks old, for $1.00; then I offered to swap the calf to a butcher for a fine heifer, and gave him $1.75 difference. In a few months I sold her for $15.00, and put the money in the bank. I think I shall cut wood this winter and sell it, but I am still catching rabbits in my box traps.

ANOTHER TRAPPER

By Alvin Aebi, Oregon.

I am a boy of sixteen, and live on a farm in Oregon. During the winter months I do some trapping and hunting. This is very interesting work, besides it pays pretty well. For fur-bearing animals we have muskrats, skunks, minks, weasels, coon and a few foxes.

The skins I stretch on a board, and let them dry in a cold dry place. They are then sent back East to some fur dealer. The skunk, which is the worst to handle, is probably the most profitable, as it is not so cunning, and can easily be caught. To get them in their dens or from a hollow log, I cut a long stick—hazel is best—and cut a V-

shaped notch in one end of it. I then shove this end against the skunk, and keep turning it one way; it keeps winding up its tail until it can be pulled out.

MAKES MONEY WITH POPCORN BALLS

By Arthur F. Walker, Kansas.

One way to make money, if you have raised a bushel or so of popcorn, as most farm boys do. Pop a fine panful to pass away the long winter evenings, and, if you can't coax mother or sister to make it into balls for you, roll up your sleeves and wash your hands, and do it yourself.

Put these in the stores at your nearest trading point, and see how fast they sell at a good profit. You will soon find that there is quite a demand for your fresh popcorn balls, and also find it pleasant and profitable.

DOES JANITOR'S WORK AT SCHOOL

By Gordon Weaver, Texas.

I had been going to school about three weeks, when one day the teacher asked me if I did not want a job to earn some money for myself. I told her I did, and she told me that one of the trustees was looking for a boy to sweep up the room every evening after school. So I went to see the trustee, and he told me he would pay $1 a week. I took the job, and up to this time I have earned $7. I am paid every Saturday, and as it is not hard work I am going to keep the job all winter.

DOES CHORES

By Seymour Carey, Pennsylvania.

I am thirteen years old, and for the past four years I have been earning money winter and summer. This year I have a place doing the chores around a barn, and I get $5 a month for it. I also do any kind of odd jobs and chores I can find. I worked on the road this fall, and made my dollar a day. I want to get some traps, and do some trapping.

MAKES THE MONEY WORK

By Allie J. Glenn, Kentucky.

Last winter I made four box traps and caught 38 rabbits. Some of these I sold for 15 cents, and the balance for 10 cents. This money I reinvested in a pig, and sold the pig this fall for a nice sum. This winter I am going to have six traps, and expect to do better. I find a readier sale for rabbits trapped in this way, as they are not torn by the shot, and then I save the cost of ammunition.

MONEY IN PIGS

By Herbert N. Sander, Ohio.

I have a pig that has eight little ones. I am going to feed them this winter and sell them in the spring. I think that pigs make more money than any other stock. I will keep a pig as long as I live on a farm. This is my first year for keeping any stock, so I thought I would buy a pig. I am twelve years old, and in the sixth grade at school. I am also trapping some this year, so with the pigs and traps I expect to make a little money.

PETS OF MEN OF GENIUS

Kindness to animals seems to be an attribute belonging to high intellectual power. By reading the lives of men of genius one learns that they took great pleasure in the companionship of the brute creation. Poets, painters, musical composers, and literary men have nearly always had their favorite animals.

The poet Byron, in his university days, had a tame bear as a pet. Later on he lavished his affections on a Newfoundland dog called Boatswain and at whose death he wrote an epitaph in his bitterest style ending with the couplet—

To mark a friend's remains these stones arise;
I never knew but one,—and here he lies.

The last eight years of the poet's short life were spent in Italy, and when journeying from Ravenna to Pisa he was accompanied by a small menagerie of horses, dogs, fowls, and monkeys.

The gentle Cowper was milder in his choice of dumb friends. The cat, the spaniel, and a tame hare were his companions, their frolics beguiling many of his melancholy hours.

Giuseppi Verdi, the musical composer, well-known by the beautiful opera of "Il Trovatore," numbered among his many four-footed favorites two watch-dogs called Top and Gemma, who were faithful guardians of his country house by day and night.

Leonardo da Vinci, the painter of the famous picture "Mona Lisa," had a heart full of tenderness for all animals, but especially for birds. When walking through the steets of Milan he would buy the birds in their cages and opening the tiny doors let the captives free. The artist was seen almost daily liberating the birds so that the shopkeepers and those who sold their wares along the sides of the busy streets called him the Bird Man, and at his death he said that of all the honors he had gained during his life he valued that name the most.

Gottfried Mind, a Swiss artist, had an especial fondness for cats. Minette, his pet, was always near him and two or three kittens would be perched on his shoulders or at the back of his neck when he stooped at his work. So clever was he in the delineation of his pets that he was called the Raphael of Cats.

Sir Walter Scott had his staghound, Maida, the constant companion of his rambles, and three Scotch terriers that he named after the condiments, Pepper, Salt and Mustard.

The large-hearted Dr. Johnson, whose house was filled with a curious assemblage of human beings to whom he was a kind protector, had his pet cat named Hodge. When Hodge was sick and refused his usual food he was seen to snatch greedily at an oyster. The learned doctor observing this would each day bring home a few oysters in his pocket with which he fed the cat until he had quite recovered.

From the weird writings of that gifted author, Edgar Allen Poe we learn that he, too, amidst the darkness of his gloomy mind found solace in the companionship of dumb animals.—J. A. Glasse, in "Our Dumb Animals."

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"She's more. She's a revenue cutter!"—Judge.

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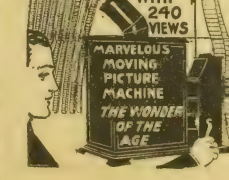

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HIS INQUIRY

Clerk—Mr. Goldbug, as I am to marry I would like more salary.

Boss—How much do you want?

Clerk—Ten dollars a week.

Boss—My gracious! How many women are you going to marry?—Chicago News.

A PUZZLER

Tommy Figgjam—Paw, doesn't "reverse" mean to "back?"

Paw Figgjam—Surely.

Tommy—Then, what did Uncle Bill mean when he said that he busted up in business because he had too many reverses and not enough backing?—Chicago Post.

MORE EFFECTIVE

Tramp—If you'll gimme a meal, mum, I'll promise to turn over a new leaf.

Mrs. Suburbs—Never mind about a new leaf, take the rake and turn over those old leaves on the lawn. Then remember that one good turn deserves another, and keep on till you get them into a pile.—Boston Transcript.

Tom—I wish I knew what my girl would like for a birthday present.

Jack—Why don't you ask her?

Tom—Oh, I haven't money enough to buy anything so expensive.—Boston Transcript.

"What is you gwineter do, now you done los' yoh job?"

"I specks I'll go into de chicken business."

"I's talkin' 'bout work. I ain' axin' you 'bout yoh pleasures."—Washington Star.

UP AGAINST IT

"Tough neighborhood I live in. People steal everything I leave in my shed."

"Why don't you put a padlock on the door?"

"I put on a fine one, and somebody got it the first night."—Kansas City Journal.

HER HOBBY

She—Oh, do be keerful! You trod right on my corns!

He—Sorry! Why do you grow such things?

She—I grow 'em for a hobby, like as some grow horchids and such.—London Sketch.

"Where is the fire hottest?" inquired the beautiful lady.

"On the next floor," said the gallant fireman.

"Then maybe you would run up and heat these curling tongs for me. I can't be carried out with my hair in wisps, you know."—Louisville Courier-Journal.

An up-to-date bride, when asked at her wedding if she "love, honor and obey," murmured: "I will if he does financially what he has promised."—T. P.'s Weekly.

A Yankee, who wanted reflected glory, writes James Baker in his "Reminiscent Gossip," once accosted the hero of the American squadron, Admiral Dewey, with: "Admiral, I bet you don't remember me."

"You win," said the admiral, and walked on.

Insurance Agent—It was you who set the house on fire with your alcohol lamp.

Tenant—Me? Not on your life. First thing, I haven't a lamp, and second I'm a lifelong member of the Temperance League.—Journal Amusant.

Brag—I'm smoking a terrible lot of cigars lately.

Snag (with conviction)—You're right, if that's one of them.

Photographer (taking plain-looking girl and her escort)—Now, try not to think of yourselves at all—think of something pleasant.—London Opinion.

Uneasy Passenger—I say, steward, doesn't the ship tip frightfully?

Dignified Steward—The vessel, mum, is trying to set a good example to the passengers.—Tatler.

Modern Child—No, Ethel, there isn't any Santa Claus; he's just your own father and mother.

Ethel—An' ain't they no Satan, neither?

Modern Child (up in her eugenics)—No, he's just your father and mother, too.

Farmer (to country boarders)—Sorry that you young folks got stung. How'd it happen?

Spokesman—Well, you see we were standing beside the beehive wondering how the bees made honey. I guess they must have overheard us, for they came out and gave us a few points.—Boston Transcript.

Lucille—Karl, I want to ask you one question.

Karl—Why, what is it, sweetheart?

Lucille—Karl, if you had never met me, would you have loved me just the same?—Ladies' Home Journal.

"Papa, why does the pretty lady frown?"

"Because, my son, the men watch her when she goes down the street."

"Then, papa, why does the homely lady frown?"

"Because they don't."—Cleveland Plain-Dealer.

Young mother (anxiously)—What makes you think the baby is going to be a great politician?

Father (confidently)—"I'll tell you, my dear. He can say more things that sound well and mean nothing at all than any kid I ever saw.—Philadelphia Bulletin.

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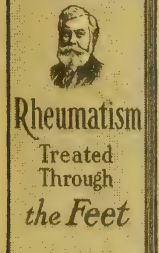

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"What on earth is Eliza fretting so about?"

"About the paper she has to read before the Don't Worry Club."—Baltimore American.

"How do you know that Chaucer dictated his old English to a stenographer?"

"Look at the way it's spelled."—Philadelphia Public Ledger.

"Why do you insist on moving every year?"

"By the time a year is up I know all the tunes in the neighborhood phonographs by heart."—Washington Star.

Stamp Clerk—This letter is overweight, madam.

Woman at Window—Well, of all the mean people! Why, I've mailed hundreds of letters that weren't anywhere near full weight, and now that I'm sending one just a little bit over you want to charge extra for it!"—New York American.

He came in and laid down some suspicious looking notes, with a genuine one on top. "I want to pay for that barrel of potatoes I got." "Can't take this money," said the clerk. "Why not?" "Most of it isn't good." "The top layer is good, is it not?" "Yes." "That's the way it was with the potatoes.

"Pardon, sir. Were you waiting for anybody?"

"I am waiting for some goulash that Ferdinand was to bring me."

"Ferdinand had been called to the colors a long time since."

"Then he should have notified me, the rascal."

"More respect, please. Ferdinand has won steady promotion and is a general now."—Pittsburg Post.

Jones—Could you give Smith a job in the street department? He's a good, conscientious fellow, and thoroughly understands street paving.

Political Boss—I could, only for that!—Judge.

Alkali Ike—And so Slippery Sam died with his boots on, eh.

Broncho Bill—No, he died with my boots on. That's how he came to die.—Boston Transcript.

She—A man's wife should be very, very dear to him.

He—Dear, but not expensive.

She was very literary and he was not. He had spent a harrowing evening discussing authors of whom he knew nothing, and their books of which he knew less.

Presently the maiden asked, archly:

"Of course, you've read 'Romeo and Juliet'?"

He floundered helplessly for a moment, and then, having a brilliant thought, blurted out, happily:—

"I've read 'Romeo'!"—Tit-Bits.

The Judge: "What proof have you that this chauffeur was intoxicated?"

The Country Policeman: "He stopped his car at a drinking-trough for horses."

"You are accused, Sam, of stealing three chickens. Do you plead guilty or not guilty?"

"Not guilty, Judge, your honah! Any man dat calls dem old hens chickens ain't acquainted with de truth."

Fitznoodle (to gamekeeper): "When I was in Australia I shot the biggest kangaroo the natives said they ever saw!"

Gamekeeper: "Hindeed, sir! What was you a-haimin' at?"

"Do you think a woman should regard her husband as an oak and herself as the clinging ivy?"

"Well," replied Miss Cayenne, "I'd rather take a chance on being a clinging ivy than a wall flower."—Washington Star.

Microbes—O'Flaherty was dining with an English friend at the hotel. A piece of "mitey" cheese was on the table, and although O'Flaherty refused to touch it, the Englishman attacked it with relish.

"I am as good as Samson," he said when he had finished it. "I have slain thousands."

"Yis," said O'Flaherty, "and wid the same weapon—the jawbone of an ass."

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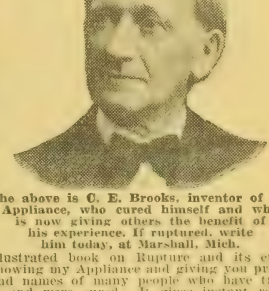
I Send It On Trial.

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon today and I will send you free my



The above is C. E. Brooks, inventor of the Appliance, who cured himself and who is now giving others the benefit of his experience. If ruptured, write him today, at Marshall, Mich.

illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It gives instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be an enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

FREE INFORMATION COUPON

Mr. C. E. Brooks, 1779-B State St., Marshall, Mich.

Please send me by mail, in plain wrapper, your illustrated book and full information about your Appliance for the cure of rupture.

Name .....

Address .....

City ..... State .....

THIS PONY FREE

"PEGGY"

"Peggy" is a beautiful sorrel Shetland with light silky mane and tail and four white feet. She is six years old, stands about 42 inches tall and weighs about 350 pounds. We have already given away 260 ponies to children all over the United States and "Peggy" is just as pretty a pony as any of these others. We selected "Peggy" from a big herd of Shetland Ponies because we thought she was the prettiest and cutest pony of them all—just the kind of pet that any little boy or girl would love to own. "Peggy" is as gentle as a kitten and likes to play and romp with children all day long. She is a sturdy little pony, too, and can haul along her little pony cart filled with happy children at a merry clip. If you send us your name and get "Peggy" she will carry you anywhere just about as fast as you want to go. Send us your name today and we will tell you just how to get her. Don't delay but do just as our other 260 Lucky Pony Winners did and send us your name at once.

WE WILL GIVE YOU OR SOME OTHER BOY OR GIRL "PEGGY" AND HER OUTFIT JUST AS SHE LOOKS HERE.

THE OUTFIT

Not only will we send "Peggy" to some lucky boy or girl, but we also send the finest kind of pony outfit along with her. The outfit includes a stylish four-wheeled pony buggy, a handsome nickel trimmed harness a hand-made riding saddle and a wonderful Indian horsehair bridle. This bridle cannot be bought in stores, but is made especially for us by an old cowboy at Deer Lodge, Montana, out of beautifully colored horsehair which he weaves into remarkable Indian designs. No child has a prettier or more complete outfit than the one we send with "Peggy" and we know you will be the happiest boy or girl in your state if you send us your name and get this beautiful pony and outfit for your own. We had just as soon send "Peggy" and the Outfit to you as to any other boy or girl but first you must send us your name and address so we can tell you all about our easy plan. You should fill out the coupon below, or send us your name on a postal card but, remember, do it now before it is too late.

Send Us Your Name Today

If You Want to Own "Peggy"

As soon as we hear from you we will tell you how to go ahead and get **"Peggy"** for your own. Our wonderful Pony Club is known all over the country because it gives Shetland Ponies to good boys and girls and you can have one of these ponies as well as any other child. Don't let anyone persuade you that you can't get beautiful little **"Peggy"** and her outfit because our plan of giving away ponies is different from others. The fact that we have already given away 260 ponies to boys and girls all over the United States, from the state of Vermont to the state of California, several going over 1800 miles from St. Paul, is proof that we give ponies away. The postmaster or banker in your town knows that the Webb Publishing Company of St. Paul, Minnesota, established more than 30 years ago, is one of the largest publishing houses in the United States and can afford to give away ponies to advertise its papers. We never heard of one of the 260 children to whom we have already given ponies until they **wrote us they wanted a pony and that is why you must send us your name and address at once if you want us to send you "Peggy" and her dandy outfit.**

WE HAVE GIVEN AWAY 260 PONIES

HERE ARE THE NAMES OF A FEW OF OUR 260 LUCKY PONY WINNERS

"Dainty," Gladys Ellwood, Franklin Co., **Vt.**
"Honey," Mabelle Thomas, Oswego Co., **N. Y.**
"Lightfoot," Romie Butz, Lehigh Co., **Pa.**
"Ad," Aurelia I. Leigh, Norfolk Co., **Va.**
"Prexy," Laura Myles, Brevard Co., **Florida.**
"Stubby," Harold Quick, Jefferson Co., **Ky.**
"Kip," Anna Ruth Miller, Logan Co., **O.**
"Snap," Jennie Nadeau, Ionia Co., **Mich.**
"Rustler," Jeanette McCown, Floyd Co., **Ind.**
"Pedro," Harold H. Hodgin, Atchison Co., **Mo.**
"Rocksy," Clarence Kappner, Adams Co., **Ill.**
"Crescent," Cecelia Garot, Kewanee Co., **Wis.**
"Gyp," Lucille Heflen, Union Co., **Ia.**
"Hector," Verna Beerbohm, Cuming Co., **Neb.**
"Marmalade," C. A. Andreas, San B. Co., **Cal.**

Notice we print the names of 15 of our 260 Lucky Pony Winners. We would gladly print the whole 260 names if we had room for them here, but we will send them to you just as soon as we hear from you. Possibly some of these happy children live in your county or a county near you and, if so, you probably know them because our Lucky Pony Winners are the best known children in their neighborhoods. However, it doesn't make any difference where you live; if you send us your name and are the lucky child to get " eggy" she and her whole outfit will be shipped without one cent of cost to you. If you send us your name the day you read this, we will send you 1000 votes for **"Peggy"** and a big surprise that will double your chances of getting a Shetland Pony.

Cut Out This Coupon and Mail Today

The Farmer's Wife Pony Club
552 Webb Bldg., St. Paul, Minn.

Please send me pictures of **"Peggy"** and names of the 260 ponies you have given away, and also tell me how to take care of Shetland ponies. I have no pony and want to join the Pony Club and get **"Peggy"** for my own.

NAME..

P. O..

R. F. D.................STATE.....................

THIS COUPON IS GOOD FOR 1000 VOTES FOR "PEGGY"

"ON THE WAY"

Every Club Member Gets a Prize.

Every child who sends us his name and joins our Pony Club will receive a handsome prize of his own choosing. Besides the Pony Outfit (and the Big Surprise we have for you) we will give Bicycles, Diamond Rings, Sewing Machines, Rifles, Cameras, Gold Watches, Flashlights and many other wonderful rewards that you never could get until now. Of course, **"Peggy"** and her dandy Outfit is the best present of all and you have the same opportunity to get her as any other boy or girl if you send us your name now.

Address all Letters to

THE FARMER'S WIFE PONY CLUB,

552 Webb Bldg., ST. PAUL, MINN.

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FAS

OF THE
UNIVERSITY OF ILLINOIS
FEB 1915

FARM NEWS

All That is New and Best for the Farmer

FEBRUARY Springfield, Ohio 1915

With the Editor

Much that is new and promising falls by the wayside, but it doesn't necessarily follow that the wayside blooms with flowers of opportunity.

"Full many a flower was born to bloom," etc., but the poet evidently had no reference to the weed known as "lace plant" in the hay field.

Many a farmer has searched for money all over his place, only to learn that the man who bought his place at sheriff's sale found it in the manure heap.

Most progressive farmers are well equipped with labor-saving machinery, and the grain of their talk is worth hanging around Implement Hall at the county fair to hear.

The hired man says that the reason he don't like to select seed corn for next year from the stalk is that it makes so blamed much work at corn-cutting and husking time next year.

We all have our predilections. Predilections means "soft spots." Some persons call them "weaknesses," but psychologists say that the road to success lies contiguous to a knowledge of our predilections, and knowing how to turn them to profitable account.

The one best thing to do at this stage of the European war, is for this country to take care of its internal business organization right now, and attend to foreign markets later on. From all appearances there will be plenty of time for this, as there seems to be no disposition on either side of the European controversy to sue for peace.

The attitude of the mind has all to do with physical condition. Just to illustrate: Isn't there some elderly person in your neighborhood who still retains the soft bloom of youth? Just investigate, and see if their mental attitude is not such as to get all of the enjoyment possible out of the little things in life. Worry causes more gray hair and wrinkles than any disease. The best way to keep young is to keep your mind youthful. Nothing tends to that condition more than an intimate and equal association with young folks.

The "old oaken bucket" has its picturesque place in the cherished memories of childhood. It has little place, however, in the present-day scheme of hygienics. For it must be admitted that the stagnant well and the moss-covered pail are first-rate breeding places for disease.

Nowadays, the up-to-the minute Captain of Farm Industry is looking out carefully for his water supply—not only for his family and himself, but for his stock. And he is the one to take especial interest in the announcement in this issue of an auto-oiled Windmill that "works by a breath"—that runs in the slightest of air currents—busy practically all the time keeping the well pumped out—keeping the water in motion. The manufacturer says it requires but a political argument in the near vicinity to make it run industriously!

The gears and bearings are flooded with oil, which is used over and over again. Two quarts of oil will keep is running a year or more.

Surely here is a new height of efficiency reached in the construction of farm machinery. It merits a place with the auto-plow, the motor-churn and the 8-cylinder "buzz-wagon."

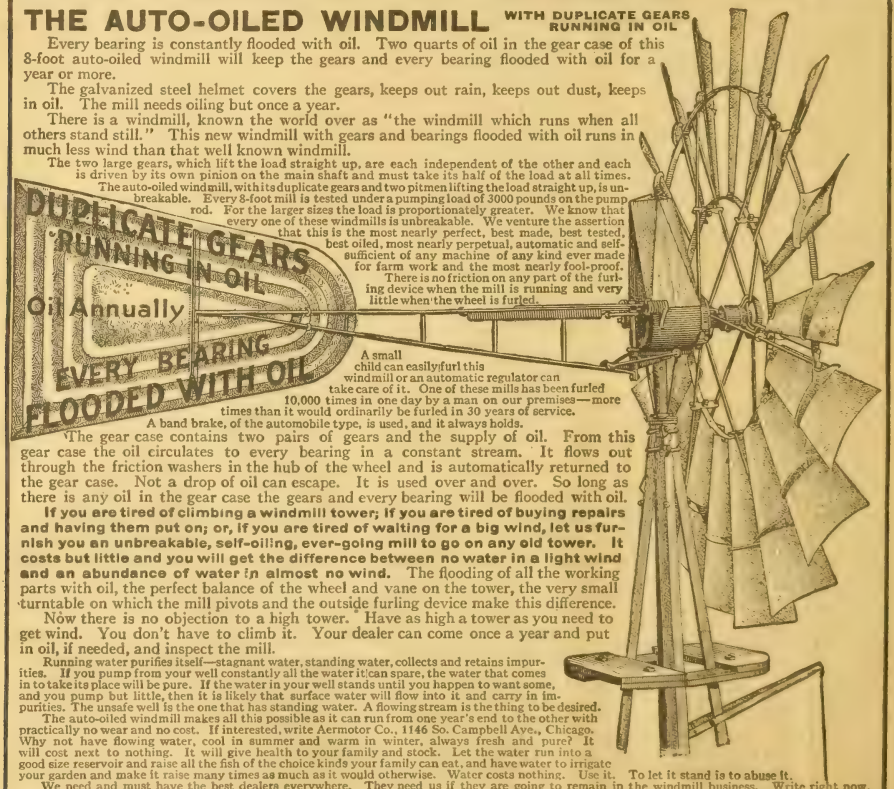
THE AUTO-OILED WINDMILL WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. Two quarts of oil in the gear case of this 8-foot auto-oiled windmill will keep the gears and every bearing flooded with oil for a year or more.

The galvanized steel helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. The mill needs oiling but once a year.

There is a windmill, known the world over as "the windmill which runs when all others stand still." This new windmill with gears and bearings flooded with oil runs in much less wind than that well known windmill.

The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The auto-oiled windmill, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable. Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when the wheel is furled.



A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

The gear case contains two pairs of gears and the supply of oil. From this gear case the oil circulates to every bearing in a constant stream. It flows out through the friction washers in the hub of the wheel and is automatically returned to the gear case. Not a drop of oil can escape. It is used over and over. So long as there is any oil in the gear case the gears and every bearing will be flooded with oil.

If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; or, if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Running water purifies itself—stagnant water, standing water, collects and retains impurities. If you pump from your well constantly all the water it can spare, the water that comes in to take its place will be pure. If the water in your well stands until you happen to want some, and you pump but little, then it is likely that surface water will flow into it and carry in impurities. The unsafe well is the one that has standing water. A flowing stream is the thing to be desired.

The auto-oiled windmill makes all this possible as it can run from one year's end to the other with practically no wear and no cost. If interested, write Aermotor Co., 1146 So. Campbell Ave., Chicago. Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. Water costs nothing. Use it. To let it stand is to abuse it.

We need and must have the best dealers everywhere. They need us if they are going to remain in the windmill business. Write right now.

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. **Renewals:** Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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SPRINGFIELD, OHIO

MATTHEW C. YOUNG, PRESIDENT

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV — FEBRUARY, 1915 — Number 2

WHY NOT BUY IT NOW?

FARMERS, you and your families constitute in the United States forty millions of people—nearly one-half of the entire population. Your income for the past year was close to ten billions of dollars, an average of $1,250.00 for each one of the eight million farmers in the United States.

There are a number of things that you intend to buy for your farm between now and spring. Perhaps this will average for each farmer at least $50.00. Now if the eight million farmers would make their spring purchases now—immediately—at an average of $50.00 each, it would put $400,000,000 of money into actual circulation, and give employment to thousands of workingmen whose families are now suffering from the want of the actual necessities of life, due to the fact that the head of the family has no work.

Business improvement is already here. Money is more free and more plentiful. Factories are starting up slowly, one at a time. But they must have orders to run, and if you would buy now, instead of two months later, it would start the wheels of progress just that much sooner, and relieve untold suffering and want among millions of people.

There is not a business house or concern in the United States at the present time, with a very few exceptions, that is not boosting and spending every dollar they have in order to get business properly under way.

Now, Mr. Farmer, we do not ask you to do anything but your share, and if you will do your share, and we all do our shares, business will once more return to a normally prosperous condition.

There is nothing at the present time that we can definitely assign as the real cause for business depression. You have produced very large crops and sold them at the highest prices ever recorded. There is plenty of money in the country for every need of every farmer and every manufacturer or merchant. The financial condition of our country, as a whole, is the best in the world, yet most of us are sitting still, crying "hard times." It looks as though everybody has sort of stopped work to look at the other fellow, and as a result business has been tied up.

Now let us all put our shoulders to the wheel and boost and spend our money judiciously for our needs, then the factories will get the orders, will soon be running full time, and we will again be working under normal business conditions.

Place your orders now for your farm machinery, building materials and such other things as are usually bought during the spring. We do not mean indiscriminate or unnecessary buying. We only ask you to buy the things that you will actually need a little later—and BUY THEM NOW.

Most of the leading manufacturers of the country are represented in the columns of your favorite agricultural paper. Answer their advertisement, give them encouragement for the money that they are spending in order to attract your attention. They are placing their faith in your buying their goods, and we ask that you do not disappoint them.

Now let us all get busy and hear the wheels hum.

WHY PEOPLE DON'T CARE FOR MUTTON

I know from my own experience, and the experience of neighbors and friends, that the reason people do not care for mutton is that it is nearly always afflicted with that wooly taste. That is not the fault of the mutton, however, but the fault of careless dressing of the carcass.

It was not until about two years ago that a butcher, who was onto his job, told me the secret of getting rid of the wooly taste. Since then I have spread the information upon every occasion.

Upon the outside of the carcass there is a thin film of skin, which if peeled off before cooking, will leave the meat without that objectionable taste. The lack of this knowledge is not peculiar to the city, either. I have eaten mutton and lamb upon farm home tables which had the wooly taste good and strong. There is nothing quite so good, in my estimation, as a fine lamb chop, with that thin cuticle removed, braised until just done through.

The United States Department of Agriculture has issued a bulletin, giving recipes for the preparation of mutton in various ways, which will be sent free to any one who will drop a postal to the Department and ask for Bulletin 526.

WHAT "EFFICIENCY" MEANS

To the average person, be he farmer, merchant, manufacturer, or workingman, efficiency is something to be attained by the highbrows only. Don't let the word fool you. Well-directed energy or effort in any line of work spells EFFICIENCY.

It is generally conceded that the hardest place to attain efficiency is on the farm. There is so much uncertainty as to weather and other conditions that it is a constant struggle to make available labor meet the demand. But successful farmers are doing it every day in the year, and it is not impossible for every farmer. The exercise of the mental faculty and the relief of the physical will accomplish wonders in efficiency.

The thing of value is what we are all looking for. But the great trouble is, that in looking for the big thing we overlook the great number of little things lying about us, which in the aggregate, equal and sometimes exceed, the big thing. No pig ever found an acorn looking up the tree.

Country people have reason to pride themselves on their comparative good-temper. The spirit that is not vexed by trifles flourishes best in the open.

A PRIZE FREE

To every person who sends us the correct number of times the word "SEND" appears in the advertisements in this issue of FARM NEWS we will send a handsome Surprise Gift, FREE and PREPAID. Send no money. Just see how many times you can find the word "SEND," tell us, and, if it is correct, you get the present. Costs you nothing to try, so get the present. Address

Send Editor, FARM NEWS, Springfield, Ohio.

THE SELLING END OF FARMING

Some Things the Farmer Can Do to Control His Market

By H. B. Trueman

HAVING been both a farmer and an advertiser, and having made the combination a profitable one, the following suggestions are offered for what they are worth to those who are beginning to think of something more than making two blades of alfalfa grow where there was only one ragweed before.

Ever since Adam set the pace as a producer without a market, the farmer has been long on production and shy on salesmanship. He has become ossified, in a manner of speaking, in this attitude toward the old notion of being a tiller of the soil exclusively. He has had it dinged into him by all the powers that have tried to "uplift" him. The two blades of grass theory has been quoted by public speakers and writers "ad nauseam." Especially the kind gentlemen who generously relieve him of the care of shipping, transporting, commission-merchanting, and otherwise standing between the producer and the consumer — meaning, of course, the philanthropic middlemen—how they have striven to inoculate the farmer with this idea that he is a producer solely.

Now, brother farmers, I think I am well within the facts when I state that the only men who ever made a big thing of farming are the producers who were also their own middlemen. Not satisfied to close the deal at the grocery store, the elevator or the loading chutes, by letting the other fellow fix the price, they combined modern business methods with the new science of agriculture. By so doing they not only grow maximum crops, but get maximum prices for their output.

Conceding the truism that it does not pay to grow grain and hay for sale, it is evident that if a man is farming for money instead of health, he might better feed the crude crops of the fields to live stock that will yield the highest returns. When a man has raised a bunch of choice thoroughbreds, he has got something to talk about. And that is all there is to advertising. The one who makes the most convincing talk is the one who gets the cream of the trade.

Advertising is telling the world who and where you are, and what you have for sale, and then adding a dash of ginger that will make the reader want your article so much that he simply can't resist it.

Advertising is salesmanship on paper. Every sale goes through a certain routine. I mean a sale where the vender comes out first best. It is not salesmanship when a farmer drives up to the elevator with a wagon-box full of Number One hard, and yells, "how much?" That's only filling an order, if it is not absolute slavery.

Scientific salesmanship is selling goods at a profit through persuasion. First you catch attention, then create interest, then induce desire, and finally persuade to the resolve to buy.

When a farmer with something special of high quality to sell can turn this trick his fortune is made. For hark you! The great material prizes of the world go to the man who can persuade others to buy. A school teacher, in the noblest and most responsible profession in the world, gets $800 a year, while a traveling salesman, with no education and less morals, gets $5,000, because he can make more for the man who makes the goods.

To drive up to the elevator with a load of No. 1, hard, and ask, "How much?" is not a sale

The first thing for a farmer to do to get in this game is to produce something that people want. Next he must put it up in such attractive form that it will appeal to his customers. No use talking, folks will eat with their eyes. Offer a messy lump of butter done up in a bit of rag, wear your overalls and talk rough—you couldn't sell blue-ribbon butter at oleo prices. But put your A-One butter in a clean carton holding a pound print, wrap it in a pretty printed label, tell by type or voice how clean you keep your cows and dairy, how this butter took the first prize at the county fair, give the lady a taste on the end of a toothpick, and ask ten cents more a pound for it than she pays for ordinary creamery—and it's a ten-to-one-shot that you will have to buy more cows before long.

A salesman or advertiser has got to put a big chunk of psychology into his work, which is no more nor less than understanding the human heart and telling the truth in an interesting way.

I am not trying here to write a complete compendium on scientific advertising, but only to hint at some of its possibilities. There isn't a farmer in the land, no matter how peculiarly situated, nor what manner of stuff he raises, but can improve his financial status by employing business system along with this scientific production.

The writer spent a goodly number of years as a dairyman near a large city. Wholesale returns being considered inadequate for his ideals of decent living, a wagon route was started, and a sanitary bottling plant installed. We had choice milk. That was the foundation. No use advertising or boosting an article without superior merit. We told people about our specialty. Folks with babies and puny children, sick folks and old people, discriminating judges of good milk and others were glad to pay us ten cents a quart for our bottled sunshine - and - clover, where our competitors were getting an average of six cents a quart.

Another time we had some superior oats. They were too good for feed, and we put a little advertisement in several papers read by farmers. Instead of selling on the open market juggled by those sacred "quotations," we got a dollar a bushel for our good seed. They were worth the money. The oats were heavy, plump, virile, free from weed-seed and carefully cleaned and graded. We shipped at buyer's expense for freight, but furnished the bags.

A neighbor had a fine crop of onions. He put up a unique sign at the front gate offering them for sale at retail prices, and folks came to his door, paid cash, took their purchases away, and were glad to get the extra-fine article.

Another friend living near a lively factory town made money selling weanling pigs at five dollars apiece. Almost every family in the suburbs wanted a "swate bit of a pig" to bring up by hand in a pen, to eat table scraps and garden wastes, and grow into a 300-pound porker for family use.

Another dairyman who made butter heard of Prof. Metchnikoff (successor of the great Pasteur) and his Bulgarian

(Continued on Page 22)

THE TIME TO PLAN FOR SPRING

To Do it Now is Just Good Business—To Get the Whole Family Interested is Ideal

DURING the cold winter days and the long quiet evenings we cannot get outside to do much, so many plans for the coming year will be made. We will become "pencil farmers" for a while, and those of us who have developed "hen fever" are almost sure to show symptoms of the malady again.

We keep hens, of course, but most of us realize them to be but a side line at best, and often an unprofitable one, so those of us who wish to better our condition—and who does not!—will turn our attention to the things others have done and to the things we see in print.

It is easy to write, for some folks, and many writers can make profits on paper that will never come true in our poultry yards or any other, so we must learn at the beginning to choose as much as possible between the good and the bad. That is, the things we need and those we do not need.

Every farmer, no matter how large or how small, should be on the mailing list of his state experiment station for those bulletins which most interest him. The experiments recorded in these bulletins were made to help him, and to fit as nearly as possible the conditions under which he works.

There are opportunities on the farm for growth and expansion in every department, but we women are often handicapped with our poultry because of the lack of interest of our other half in the business. I know from experience that making the farm flock pay a profit is no sinecure. It is hard work, and too much for a woman, if she cannot have the assistance of some of the stronger members of the family. Just to illustrate some of the things we sometimes overlook, I am going to cite the case of a friend of mine who knew nothing of raising poultry, but who knew a good thing when he saw it.

He happened to spend a week in a large city some seventy-five miles from our home village, and noticing the prices being paid for eggs he began to inquire into the produce business and found a discrepancy of thirty cents per dozen between the price paid by the consumer in the city and the amount the farmer back home was receiving for them. He saw an opportunity there and he began to look for customers that could use guaranteed fresh eggs at sixty cents per dozen. It was an easy matter to do this, and as soon as he had sufficient trade to warrant the move he arranged with a grocer to handle the eggs for him on a commission, and to deliver them to the customers he had already obtained.

When he returned, we, of course, readily agreed to let him have our fresh eggs at one and one-half cents above the market price. On these eggs he made, after all expenses of commission, shipping and packing were paid, a profit of nearly $6 per case of thirty dozen throughout the winter, and he shipped from three to five cases per week!

Why did we not do this ourselves? Because we did not try. We lacked initiative. We had just as well had this additional profit as a community through a little co-operative effort as not, but the fact is we did not get it. So in our winter planning let us enlist the help of the male contingent to help us look after these things. Also, while we are planning and reading the things that will enable us to get out our chicks earlier and in better condition, let us try to remember the selling end.—Mrs. L. C. Smith.

Fireside Plans for Spring

Just enough of a glimpse of the Eden of Spring is given us during this month to quicken the desire to get at the Spring work. Actual work is impossible, but the most essential part—the planning of the work—can now be undertaken. When the cold blasts of winter whistle around the house, gather the family in conference as to these Spring plans. Broaden out on the team-work phase of farm work, and bring the interest of the entire family to bear on these plans which are so vital to all. Another thing: You will doubtless need some new supplies, some new implements for the opening of the season. Let us again remind you that the greatest benefit you can confer upon Our Country as a whole is to place your order for these things RIGHT NOW.

PLANNING THE HOME VEGETABLE GARDEN

By Hiram E. Greiner.

A good time for planning the home vegetable garden is in the winter, for then most people have more or less leisure time. Catalogs of seed houses can be obtained, and the different kinds of vegetables studied, and the prices of different ones compared. In planning the home garden remember these objects of the garden: (1) To secure a sufficient quantity of fresh vegetables preferred by members of the family; (2) to obtain vegetables of the best quality; (3) there should be a large variety; (4) to have a succession of vegetables for the season; (5) ease and cheapness of cultivation; (6) to maintain the productivity of the garden.

The home garden differs from all other kinds of farming, for here the principal object is to satisfy the members of the family. Every one knows that home-grown vegetables far surpass those purchased in freshness, for they are pulled as used for the table. Therefore we will grow those vegetables which each one of the family likes, and we will grow enough so that we may have all we want to use. It is usually best to grow a few more, as they may be easily sold, and thus increase the income of the farm. It is said that a lot 110 feet by 150 feet will give enough vegetables for a family of six, exclusive of the potatoes, but this area must be well tilled.

In home gardening, more than anywhere else, can we have quality. If crops are sold attention must be given to the variety that will produce well, ship well, keep well, and stand more or less hard usage. None of these characteristics are required for the home table. It is a well known fact that vegetables of the highest quality are usually poor growers, or poor shippers, or will spoil easily. Since the vegetables will be used at home no attention need be given to anything but quality. Let us have the best for our home at least.

Many people plant only a few vegetables of the same variety year after year. Many a place grows radishes, lettuce, and a few onions. These are all that are produced year after year. Why not this year give some new kind of vegetable a fair trial? Many a person says that he or she does not like this or that, when in actual fact they have never even tasted the vegetable. Study the catalogs this winter, and try some new vegetable. Learn all you can about it and the culture from the seed house, and then prepare it properly. Many a fine vegetable has been spoiled by poor cooking. Learn to serve it properly. If the family likes greens, why not try Swiss chard, purslane, spinach, or even wild mustard? These greens come in when the dandelion is too old to be used, and there is nothing to take its place. Any of the above answer the same purpose. The leaves of young wild mustard, if properly prepared, make excellent greens.

(Continued on Page 22)

BUYING A FARM

Some Points to be Considered by Prospective Purchaser Before Decison is Made

By J. A. Raiser

THERE is much buying and selling of farms going on. Land is high in price—too high priced in fact —to go into buying a farm blindly. You don't want to buy a cat in the bag at such fabulous prices.

Don't buy a farm unsuited to your requirements. Have a prior knowledge of what you want. Acquaint yourself with the prime requisites you wish your farm to possess. Finding one possessing these, buy, and never mind the price, it will be worth all of this to you if you are a born farmer.

Contemplating buying a farm, some time previous to your buying, get a notebook, and make the desired entries in it. Look around you, note the difference in farms, superior and inferior qualities alike. Compare the desirable with the undesirable, then write in your notebook the desirable features you would wish your farm to possess, and also those you would wish it not to possess. Thus you will gather many a hint that will help you in your selection of a farm, and so lessen the danger of your being dissatisfied with your purchase.

There is no man quite capable of remembering, on the spur of the moment, all of the desirable features he wishes his farm to possess, even after some premeditation, if he has not entered them where he can hastily run over them, and thus refresh his mind. The real-estate agent, with volubility and glowing account of the "grand propositions" he is offering you, is apt to induce those who have not thoroughly fortified their minds to buy that which later proves to be more or less disappointing.

In the hope of helping prospective buyers to make a right selection of a farm let me open my notebook in which I have jotted down those features I would wish a farm to possess were I about to purchase one. Naming them in order they are as follows:

LOCATION

The farm should be well located on an improved road, near to good shipping facilities, school, church, not too far distant from a city offering a good market for the disposal of farm produce. However distant from city is not so objectionable as formerly, since the automobile, as it were, has brought distant farms to be neighbor to the city, at least bringing them in closer connection or touch with the city.

It has been said that automobiles have increased the value of farms for this very reason. This is true, but it is also true that good roads increase the value of farms, as do they also increase the revenues from farm produce, owing to the fact that they facilitate marketing, making it easy to market produce when fresh, in demand, and high priced. Certainly you want your farm located on a good road.

A good school is necessary for the education of your children, a church for you and your family's spiritual edification. You do not want to move into a churchless community. Although men may sneer and scoff at churches and church goers, they can't get around the fact that it is these very institutions and the frequenters of them that keep men from falling into the abyss of total darkness and gloom. Yes you will want to live in a church-going community.

As it is not desirable to get in among undesirable neighbors so you do well to make inquiry, and get substantiated information concerning this matter.

Shade trees, shrubs and flowers are always attractive and an important point to be considered

CONDITION OF SOIL

Acquaint yourself with the character of the soil. You will want soil suitable for the growing of such crops as you intend to produce. If you are not well informed about soils have some one who is more conversant accompany you on your quest. Many farmers are able to very closely guess the nature of the soil by the kind of trees that thrive upon it. They claim that land upon which hardwood trees flourish possesses soil that is rich, and that in such sections the climate is healthy.

It has been said that where hickories, buckeyes and black walnuts grow, the soil is strong and rich, hard to work, but one which, when brought under cultivation, will show great fertility. I can substantiate this claim, as it is the nature of the soil in this locality, on which these trees grow, and flourished in the past.

It is also claimed that where chestnuts grow the soil is light and thin, but adapted to the growth of corn, rye, vegetables and small fruits. To yield good crops of wheat, oats or fruits such soils must be heavily fertilized. This statement corresponds very well with the soil they have a little to the east of us, where chestnuts abound.

CLIMATIC CONDITIONS

If you desire to market early garden produce, and avoid late spring frosts, consider well the altitude of the farm and avoid lowlands; or, if the summer season is short, avoid buying lowlands and look with favor on land of higher altitude, for cold air and frosts hover longer over lowlands, and this means a great deal to early-truck growers.

Have your own outlet if possible. An open ditch or a small stream is no detriment to a farm, but rather a favorable feature to cattlemen, as runing water renders the watering of stock an easy matter when accessible. And the ditch or small stream gives you a splendid outlet of your own, making a perfect drainage system on your farm possible. You need not then go begging to a neighbor for an outlet for your water, which, when it is obtained, often proves inefficient.

ARRANGEMENT AND APPEARANCE

You will want your farm buildings conveniently arranged and in good repair. At the present prices of building material, you can buy good buildings cheaper with the farm than you can erect them on naked land, as the difference in price between improved farms and unimproved is not nearly sufficient to cover the expense of erecting buildings.

You want an inexhaustable supply of good water and a nice variety of fruit. A home, no matter how well appearing the dwelling, that has no ornamentation in the way of trees and shrubs and flowers is unattractive.

Fresh From the Farm

By Farm News Subscribers

FORCASTING WEATHER ON THE FARM

By George H. Dacy.

A reliable barometer, thermometer, and the daily weather maps issued by the United States Department of Agriculture, should be a part of every farm's equipment. A good aneroid barometer that will accurately foretell weather changes will cost about $7.00, while an excellent maximum and minimum thermometer may be had for $3. The national Weather Bureau daily issues colored maps which show the location of storm centers and the direction of prevailing winds. For $2.50 any farmer can daily obtain these reliable guides to future weather.

No matter how efficient a manager the individual country man may be, he occasionally is bested by the weatherman. It is easy enough to plan future work. It is a complicated matter to successfully execute the plans due to changeable, inclement weather. The farmer is wholly dependent on the weather fates for his crops. They make or break him.

Many old-fashioned farmers are fairly accurate in foretelling the approach of storms or radical changes in the weather. These men have been practical students of weatherology. Some of the signs according to which they base their predictions are of marked significance to the farming public. Here are a few of these weather keynotes. A rosy sky at sunset indicates fair weather, while an Indian-red tint means rain. A red sky in the morning signifies bad weather, wind and perhaps rain. A gray sky and soft-looking clouds indicate fine weather, while oily-appearing clouds and a dark, gloomy sky, or a bright, yellow sky at sunset denote wind.

Domestic animals and wild fowl scent approaching storms and seek shelter. By noticing the actions of these animals one can aptly predict coming weather. Goats seek shelter as a storm approaches, while sheep huddle together. Seabirds fly inland in search of food as bad weather comes on, while wild fowl forsake marshy ground for highlands. Frogs are noisy before a rainstorm, while swallows fly low before a period of inclement weather.

Dews and fogs are both harbingers of good weather. Usually, when distant objects appear near at hand, it is an indication of rain. The oldtimers say that fleecy clouds denote favorable weather accompanied by moderate breezes, while ragged clouds prophesy strong winds. Usually a pale, yellow-hued sky or green-tinted clouds are significant of wet weather to come.

DON'T NEGLECT THE PIGS

The common belief that any housing accommodation is good enough for pigs is unfortunate for them and for the owner of them. Because of the rooting habit of the animal it has not been thought necessary to be particular about the place he called "home." This notion is bad for his growth and preparation for market, and consequently harmful to the prospective profits of the owner, who ought to realize that pigs should have as clean, wholesome headquarters as can be provided. There are other things to which the swine grower should give attention besides selecting good breeding animals and seeing that they are well fed. The owner who looks for the best results should watch his animals daily, and see that they eat with a relish. Their condition must be noted to see if the hair looks smooth and bright, and if they are free from vermin.

Another is to keep their digestion good by supplying charcoal. The best is made from burning corncobs. For this purpose use can be made of a pit in the form of a cistern, about six feet in diameter and about the same depth, laid up in stone. Start a fire at the bottom and fill with corn cobs, and as it comes to a bright glow add more cobs until the pit is full. Then pour in salt water in which some powdered copperas has been dissolved, and cover the pit as nearly air tight as possible. The result will give the best kind of charcoal which all the pigs on the farm will eat with a relish.

THREE REASONS

Each With Two Legs and Ten Fingers

A Boston woman who is a fond mother writes an amusing article about her experience feeding her boys.

Among other things she says: "Three chubby, rosy-cheeked boys, Bob, Jack, and Dick, respectively, are three of our reasons for using and recommending the food, Grape-Nuts, for these youngsters have been fed on Grape-Nuts since infancy, and often between meals when other children would have been given candy.

"I gave a package of Grape-Nuts to a neighbor whose 3-year-old child was a weazened little thing, ill half the time. The little tot ate the Grape-Nuts and cream greedily and the mother continued the good work, and it was not long before a truly wonderful change manifested itself in the child's face and body. The results were remarkable, even for Grape-Nuts.

"Both husband and I use Grape-Nuts every day and keep strong and well and have three of the finest, healthiest boys you can find in a day's march."

Many mothers instead of destroying the children's stomachs with candy and cake give the youngsters a handful of Grape-Nuts when they are begging for something in the way of sweets. The result is soon shown in greatly increased health, strength and mental activity.

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Try this Recipe for using

Baker's Chocolate

Chocolate Meringue Pudding

2 cups milk
¼ cup cornstarch
1 ounce Walter Baker & Co.'s Premium No. 1 Chocolate
2 eggs
½ cup powdered sugar
¼ teaspoon salt
½ teaspoon vanilla

Mix cornstarch with one-half cup milk. Scald remaining milk with chocolate. Add cornstarch mixture gradually, while stirring constantly, and cook fifteen minutes. Beat yolks of eggs and add sugar, reserving two tablespoons. Pour hot mixture gradually, while stirring constantly, on egg mixture and add salt. Turn into a buttered pudding dish and bake twenty minutes in a moderate oven. Beat whites of eggs until stiff and add gradually, while beating constantly, reserved sugar. Spread meringue on pudding and cook in a slow oven ten minutes. Serve either hot or cold.

This recipe is from our sixty-four page book of Choice Recipes, which will be sent FREE on request

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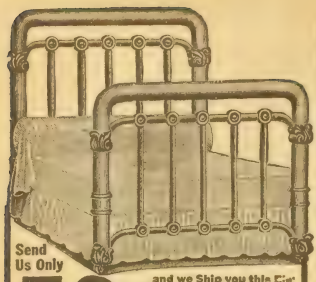

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The Path of Progress

As the Girls of the "Sunny Southland" See It

ONE of the most interesting phases of agricultural development is that taking place in the "Sunny Southland." Here, the girls, banded into Canning Clubs, and working under expert supervision, are accomplishing wonders in the production of marketable commodities which in many instances would have been mere waste. In addition to the financial return there is also evident a development of initiative, which never fails in bringing its full meed of success financially, as well as to enlarge the scope and capacity for pleasure in profitable employment.

Madge Farrar, of Tennessee, has proved the possibilities of growing crops all the year round in her state. By raising and selling vegetables throughout the year she made a net profit of $131.62, while the second-best girl, who also did good work, but did not diversify, made $96.20 profit. The girl with the second average grew only beans and tomatoes during the fall and summer. Miss Farrar, however, having grown these crops, put in onions during the winter, which she sold at a good profit early in February. She then proceeded to plant cabbages, which brought her an income during April and May, while peas were her main crop in June. This brought her back to the tomato and bean season, and rounded out a year of profitable vegetable growing.

The finished product, and one which commands the best prices and choicest markets

Another young woman found a peach orchard into which hogs had been turned. She took her canner with her and established herself in the orchard to save what was left from the hogs, and made $60 in one week from her work. Similar instances have demonstrated the possibilities of saving waste in that section, and there has been a more general interest exhibited, not only by the farmers' daughters, but by many of their wives.

MARKETING BY PARCEL POST

One of the principal difficulties in selling and in buying by means of the Parcel Post is for the producer to find a consumer and for the consumer to find a producer. Here are some suggestions: (1) Start business with some acquaintance; (2) producers may send their name and a list of their produce to the city and town physicians, who usually know persons desiring newly laid eggs and fresh produce; (3) advertise in a paper that circulates in the section in which you desire to sell or buy; (4) several large city postoffices have a list of producers; (5) do not demand that all the difference between the ordinary city and country price be adjusted in your favor.

George Rogers, a postal clerk who ought to know, has devised a table, by which, he claims, rates may be rapidly computed with the aid of the parcel post "zone" map. Rogers has just completed the table, though the rates have been in effect two years. For the first and second zones, for instance, under Rogers' plan, the rate is equal to the number of pounds of the parcel post plus cents. The table follows:

First and second zones, postage equals number of pounds plus four cents.

Third zone, two times number pounds plus four cents.

Fourth zone, four times number pounds plus three cents.

Fifth zone, six times number pounds plus two cents.

Sixth zone, eight times number pounds plus one cent.

Seventh zone, ten times number pounds plus one cent.

Eighth zone, twelve cents per pound.

FIG POSSIBILITIES IN SOUTHERN MISSISSIPPI

Although the area where figs will grow in this country is extremely limited, in certain sections of southern Mississippi this fruit grows so plentifully that its value is not appreciated, and barrels of figs go to waste every year. Under the conditions that exist in dooryards and gardens the trees require little or no cultivation, and the majority of owners eat a few, can a few for home use, and permit the rest to go to waste, except in localities where commercial canners are prepared to buy the fruit from day to day as it ripens.

During the past year two counties of southern Mississippi decided to specialize in canning figs. One girl packed 500 pints, which she sold for from 35 cents to 40 cents a pint. The girls in these sections are now leaving tomatoes

for other less fortunate districts where figs will not grow, and are planting six fig trees on their tenth acre formerly planted to the other crop. The demand for this product from figless sections is far beyond the supply.

SOUTH CAROLINA PRODUCES PIMENTOES

Pimentoes have proved a particular boon to certain counties in South Carolina as have figs in Mississippi. Certain clubs, which had been specializing on tomatoes, decided that there was a possibility in pimentoes, which are not so generally grown, and which are canned in practically no other parts of this country, the main canned product here being imported from Spain and Mexico. Since the product of these young women has been put on the market, requests have come from forty-five states for information regarding the canning and culture of this valuable food product, which the American people in general do not yet understand.

The total profit of all the South Carolina club girls for the past year was over $28,000. Every agent who assists the girls is a college graduate who has received special domestic-science training. Home demonstration work is a feature, the motto being "Do one thing at a time." There was, for instance, a home-made fireless cooker campaign which lasted for three days in one section, and resulted in a hundred home-made cookers being put into use. A fly-trap campaign is to be next in order, and after that a buttermaking campaign.

VALUE OF A NAME IN NORTH CAROLINA

Two sisters in North Carolina have established such a reputation for their canned fruits and vegetables that they cannot fill the demand. The rules of the agent in charge of the North Carolina work make it necessary that the name and address of every club member go on every can she puts on the market. "Give me a can of Mabel Norris tomatoes," or "Give me a can of Agnes Norris peaches," requests the housewife of the grocer in the section where these two sisters sell their products. These young women no longer put up their product in glass, but in tins, their name on the outside being sufficient guarantee for the appearance of the product.

The North Carolina girls are being taught to be business women as well as to put up superior products. The state leaders, when they first interested the girls in the work, attempted to find markets for them, but as more girls join the clubs this is impossible, and each girl is taught to get out among the housewives and dealers of her neighborhood, and make her own market. Similarly, in Mississippi "marketing committees" are organized by the girls themselves, and club members in one section put those of another section in touch with possible markets for their goods.

Free speech doesn't mean liberty to say just anything that comes into your head; just try it, if you please, and you are pretty apt to get that head punched a little.

Placing food for thought before those who are destitute of the means for consuming it is great waste.

Spring Newness with Thrift-Economy-Saving

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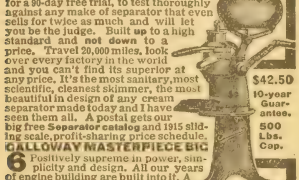

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Farm Fertility

Getting Maximum Benefits From Farm Manure

By Lester J. Meredith

ONE of the most vital points in farming is the methods of caring for and handling the farm manure derived from feeding stock. The manure pile represents much of the fertility removed by the crops, and crop growing without manure rapidly depletes the humus content of the soil and leaves it in a run down physical, chemical and biological condition. Much progress has been made in soil management and the handling of manures in recent years, yet we must progress further before we can get the most out of this valuable by-product.

Many authorities claim that manure is not an evenly balanced plant-food, but chemistry tells us that it contains for each ten pounds of nitrogen about ten pounds of potash and five pounds of phosphoric acid, and that the average farm crop uses plant-food in nearly the same proportions, so that it would seem a pretty well-balanced fertilizer. It is true that by growing leguminous crops much of the nitrogen required can be obtained from the atmosphere. The power to gather nitrogen is possessed by the clovers, peas and other legumes, and does not extend to wheat, corn, oats, timothy and other grasses. So, when legumes are not grown in the crop rotation, nitrogen, as well as the other two elements, must be furnished in the fertilizer; and manure properly handled is about as complete and well balanced a fertilizer as could be used.

From the methods employed by most farmers, it seems that they do not realize how much of the fertility is carried away from the manure pile when exposed to the weather before it is applied to the soil. The problem of caring for this must be worked out by every man himself, and I am not narrow enough in my views to say that farm manure cannot be composted and made more quickly available with very little less loss of fertilizing value. I believe, however, that better results are obtained by hauling it from the stable direct to the field as fast as it is made.

We farmers are facing conditions that are constantly changing and must adjust ourselves to them as fast as possible. With farm wages as high as at present many farmers will plow less ground and haul manure to the grass-lands. Grass and clover may be safely covered with manure in fall, and winter even, if the plants are covered, and the manure so applied will be very completely utilized.

The organic matter in the decomposed manure forms a base for the soil organisms to work upon while they are making the plant food in the soil fit for use by the growing plants. The watery extracts in the green manure assist in unlocking much plant food that would not be available for the growing crops. When all of the liquids are saved by the use of plenty of straw and absorbents, large amounts of manure may be made, and when it is spread on the field these liquids will soak down to the depth of the furrow slice, if the ground is to be plowed, and to an equal depth in the meadow.

Manure cannot well be applied to a sod after the grass has started in the spring, and to plow under much of coarse manure before planting time will often bring disaster to the rising of moisture from below by capillary attraction. So I should advise hauling the manure as quickly as it is made, to save all the liquid portions, which will otherwise be lost, unless we have every modern convenience for saving them.

The more I study and observe the farm-fertility problem the more firmly

The winning combination in the fertility campaign

I believe that farm manure is about the best fertilizer for any purpose, on either rich or run-down soils, to the extent at least of forming the basis of fertility, although I know from my own experience the economy of growing legumes one year in three or four, and supplementing the farm manure with chemical plant foods to enable the nitrogen-gathering plants to do more efficient work at nitrogen fixation. In this way the farm manure can be made to cover more land and the surplus of nitrogen furnished by the legumes can be turned to profit.

On many farms this system of rotation, manure and the use of chemicals, is being intelligently pursued, and the owners are growing a cash crop in their rotations, thus doubling their incomes. Under this method the manure is applied to the grass ground at the rate of about ten loads to the acre. The corn crop is a rank feeder and can make use of the relatively unavailable

(Continued on Page 23)

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No experience is required in introducing this wonderful machine, because the washer itself is the best salesmen in the world—***it sells itself right on the spot.*** You do not need to stand and give a "spiel" or a lot of argument. Any housewife can see instantly what it will mean to her—can see why it works so wonderfully—can see why she must have it, and have it at once.
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Mr. Speakman is one of my agents who started this work without having had any experience at all in trying to sell anything. His wonderful success simply shows how easy this machine sells to every home. I have said it sells itself. Listen: Here's the proof from Speakman's own record. One day he just went from house to house and left a machine for each housewife to try—left the machine to tell its own story. He put out 36 machines. Then he went right around and collected the cash in every single instance. Every machine absolutely sold itself. Speakman's profit $36.00. Now this same opportunity is open to you. He did not need experience. He did not have to do any talking at all. You can do as well as Speakman did. You can make this money yourself. Just get busy--NOW

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Nothing stands in your way. You can do what others are doing every day. You can make this money. I am offering you this position ***free.*** I can help you as I helped G. W. Hickman, of Ga., to make $10 the first afternoon. Frank Green made $45 first three days. Mrs. L. C. Marrick made $90 first three weeks ***in spare time only.*** J. H. Goddard ***made $18 first three hours.*** No talking necessary. Just show the machine—any one can do that—you get the order right on the spot.

ONLY $1.50

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And every machine ***sold on money-back guarantee.*** A child can use it. Abolishes labor of wash day. Frees women from worry and fatigue. ***Housewives discard $15 and $20 machines for it.*** No competition. ***Patented.*** Infringers will be prosecuted. Avoid imitations. Get the ***Wendell Vacuum and Compress Washer*** only.

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Send for complete information ***free*** today. Learn all about this remarkable new invention that is exciting housewives and making agents rich. Learn for yourself. Earn for yourself.

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Learn how R. W. Kirshner, of Nebraska, ***made $6 the first hour and a half.*** Eugene Clement, of New York, made ***$7 his first hour and a half.*** Wm. C. Fox, of Oklahoma, made $14 first evening in two hours—wired big order for rush shipment. ***He is only 14 years old,*** goes to school and works in spare time evenings and Saturdays.

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The work of this invention is almost unbelievable—yet it is true. Listen to the words of Mrs. Thomas Jenkins: "I have been washing clothes for twenty-five years. I have owned all sorts of washers. I now have in my home a costly washer which I have put aside ***and never use since buying the Wendell Washer.*** The first day I used the Wendell I washed ***six tubs of clothes in just thirty-three minutes.*** One tub consisted of greasy aprons, and other colored clothes, among which was a wool dress skirt. These I examined at the end of five minutes, and to my surprise found them to be perfectly clean. Two tubs were of blankets, and I worked on each tub only three minutes."
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DON'T DELAY! Attend to this at once. You can't pick May apples in February—this opportunity is ready ***now. Are you?*** Then get busy. Sit down right now and write that letter or postal. ***Do your part.*** Do not let some one else get ahead of you. ***Territory is going fast.*** A day too late is sometimes as bad as a year too late. ***This proposition means success to you—ACT.***
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$400 an Acre From Strawberries

Novice Makes Good By Using Common Sense and Seedsmen's Catalogs

By H. L. Spooner

THERE are forty-acre farms in many parts of the United States that do not net an annual income of $400. When we say that a profit of $400 has been made from one acre, some of these forty-acre owners seem skeptical, and say that possibly this has been done at some experimental farm, or by some individual under peculiarly ideal conditions.

However, this amount was cleared in 1913 on one acre by a man who knew absolutely nothing about strawberry growing, or any other kind of farming, until the year before he made this record. The writer is aware that two or three times this amount can be made under irrigation, and specially favorable climatic and soil conditions, but this record was made with dry farming, and where climatic and soil conditions were both under the ordinary.

The man in question, Mr. John Olson, who did this in Michigan, had always been manager of a store. His health failed, and in the fall of 1911 he bought a forty-acre farm of fairly good soil, only half of which was cleared. He had never had even one day's experience at farm work, but his previous vocation had given him good judgment and a habit of studying things before rushing into them. He subscribed for several agricultural and horticultural papers, and bought some good books on farming. The winter of 1911-12 he spent studying and planning his work for the following season.

He had noticed that wild strawberries grew profusely on his land, and he knew, as a store man, that strawberries always brought a good price. He therefore reasoned that cultivated strawberries would grow, and that they ought to produce a good profit. He read all he could find on the subject in the farm papers, and sent for several catalogs of plant growers.

In reading these catalogs he found out a lot of things that he never knew before. First he found that there are a number of varieties of plants. He had always supposed that a strawberry plant was a strawberry plant. The number of varieties was confusing, but he picked out several that he thought would be good for his climate. Then he found that strawberry plants have sex the same as animals. He learned that certain varieties have pistils only, and produce imperfect berries if planted alone, and that other varieties have both pistils and stamens and produce perfect fruit. Further, that pistillate varieties must be planted with staminate varieties in order to produce marketable fruit.

As he was a beginner, and did not wish to do too much experimenting, he determined to set only staminate varieties. In studying about markets he learned that it is easier to sell a lot of one kind than several kinds. He had set his heart on five varieties, and now to choose one of the five was a hard question. After reading a lot on the subject, he chose the Senator Dunlap, as it seemed to be suited to his locality, and was the general favorite among the big growers. He ordered 500 plants from a successful upper peninsula grower, believing that plants grown in the upper peninsula would be more likely to grow than those grown elsewhere.

When spring came he selected an acre of land that had been in potatoes the year before and was comparatively free from weeds. The soil was a mellow clay loam. This he plowed about six inches deep and harrowed thoroughly until it was in fine shape. He used no manure or other fertilizer, as he had none, and could not procure it without the cost being prohibitive. He made a marker by cutting two poles sixteen feet long for frames and boring holes in these three feet apart, the two outside holes being six inches from the ends. Round stakes three and one-half feet long were driven tightly into these holes, the two frame pieces being about eighteen inches apart. Thills made of poles were also driven into holes bored for that purpose. The field was marked both ways with this marker.

The plants were set with a spade, his boy helping him. He used the spade with his right hand, carrying a basket of plants on his left arm. He used an ordinary market basket, but made a cover which extended over half-way across. This was to protect the plants from the sun and wind. If exposed they quickly dry out, and this may result in their getting a slow start or dying entirely. Only a basketful at a time were unpacked, the rest being left in the packing crate as they came, with the roots in moist sphagnum moss.

When set every plant was green, and but few of them wilted. He placed the spade at right angles with the row, the left edge of the spade being even with the mark. With the right foot he forced the spade deep in the ground at a slight angle and pushed the handle forward, which left an opening behind the spade in which to insert the plant. The boy did this by taking the plant between his thumb and second finger of right hand, the first finger extending straight down beside the roots. With a quick swing he placed the plant in the opening behind the spade down to the bud and held it in this position until the spade was removed, and his father with his left foot pressed the soil firmly to the plant.

Cultivation was begun two or three days after setting and kept up all season at intervals of about ten days. A small-tooth cultivator was used. Whenever it rained the soil had a tendency to pack, so they were cultivated as soon as the ground was dry enough. By frequent cultivation a dust mulch was always maintained, which kept a constant

supply of moisture in the soil. The cultivation kept most of the weeds and grass down, but as the cultivator could not be run close to the plants, the patch was gone over several times with a hoe, destroying the weeds and loosening the soil about the plants.

The plants were sprayed with Bordeaux mixture every two weeks the first season. This was made by Mr. Olson himself as follows: Four pounds of blue vitriol were dissolved in four gallons of water. Four pounds of lime was slacked in four gallons of water. The two solutions were then poured together and thirty-two gallons of water added. The spraying was done with a small compressed air sprayer. This spraying prevented any disease from gaining a foothold, and when the plants went into winter quarters, they were as green and healthy as when set in the spring.

The blossoms were removed in order to conserve all the strength of the plants to build up a good fruit system for the following year. A pair of ordinary shears was used for this. When the runners started, the first four from each plant were set in star-shape around the mother plant. The new plants were pressed down and a little loose soil thrown on the runner just behind the small plant. The mother plant and runners thus formed an X, with the mother plant at the center. The runner plants were placed six inches each way from the mother plants, the plants in each hill thus occupying a square foot of space. All other runners were cut off as fast as formed. This system of setting is called the double-hedge system. By the use of this system, there were two feet left between the rows each way for horse cultivation.

A light mulch of rye straw was applied after the first freeze in the fall, and left until danger from frost was past in the spring. They were uncovered by taking a pitchfork and moving the mulch from over the plants to the spaces between the rows. The mulch was left to keep down weeds, keep the soil moist, and make a clean place for the berries to lay.

When the plants blossomed they were a sight to behold. And when the big red berries appeared the fondest hopes of the grower were realized. He had not hoped to see so many berries. He had seen the pictures in the catalogs, showing the plants to be as full as they could hold, but thought that these were exaggerated. But now his own plants fulfilled every promise of the catalogs. What to do with so many berries appalled him. He had studied different methods of marketing, but he had expected only enough berries to fill the wants of his neighbors. A quick trip was made to Escanaba, the nearest market town, thirty miles distant, and arrangements made to sell the entire crop. They were sold direct to the grocers, one grocer taking half the crop.

Mr. Olson did the packing himself. The berries in the top layer were placed by hand in rows with the stems down, and made a very attractive appearance. No labels were used this year, but Mr. Olson is planning on using a two-color label next year, the printing in black and the berry in red. One of these will be placed on each box. Mr. Olson figures that by doing this he can build up a permanent demand for his berries as customers will know whose berries to call for.

When the crop was off, Mr. Olson mowed the patch with a mowing machine. It was left for three days, the mulch loosened with a pitchfork, and then burned over. He choose a day when there was a little wind. He took a fork full of straw, set it afire, then passed quickly along the side of the patch from which the wind was blowing, setting the mulch afire. The wind carried it quickly over the field, burning up mulch and leaves, and incidentally, all vermin. The fire ran so quickly over the field that no damage was done to the plants.

They were mulched this year as before. When uncovered in the spring, they gave promise of a fine crop, but a June frost lessened the crop one-half. Mr. Olson was not discouraged by this set-back, but learned a lesson from it, and another year will be prepared for such a contingency.

Mr. Olson is so well pleased with his success that he has set four acres for the spring of 1915. He has taken the same kind of care of these that he did of his first acre. The writer visited his field in September, and never saw a nicer patch of plants. Mr. Olson has already arranged for the sale of his 1915 crop, and as he now knows how to prevent frost, he reasonably expects to make as much per acre as he did the first year.

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LIVE STOCK

AZOTURIA—A HORSE DISEASE

During the winter months horses are stricken with a disease, the first symptoms of which are a staggering of the hind parts, knuckling at the pastern joints, and profuse perspiration. In spite of the spasms in the muscles of the hind parts the horse attempts to go on until he falls helpless. Usually there are efforts to rise, but as a rule the animal is unable to stand, even should it regain its feet.

The horse should be at once removed to warm quarters, with ample straw or other bedding to prevent any injury to them in attempting to regain their feet. It should be covered with a warm blanket while being removed to the stable, where a roomy box stall, or space on the barn floor, should be provided.

Until the horse is able to stand it will be necessary to pass a catheter, and draw the urine twice a day, and it should be turned at frequent intervals to prevent sores due to lying on one side. The general opinion is that the disease is an autointoxication, brought on by rich feeding during a period of idleness. The disease, which is sometimes knwn to farmers as "lumbago," or "black water," is best prevented by a reduction of the grain rations when the horses are not working, and by exercising them daily.

IMPACTION IN HORSES

This is the time of the year when impaction of the bowels is most common. The idle horses are turned out to an old straw stack or coarse alfalfa and allowed to shift for themselves. Owing to the cold weather they drink little water and the coarse food not being properly moistened clogs the intestines. This is more liable to be the case if the teeth are not in first-class condition, for then the food is not finely ground in the mouth. Looking after the teeth and giving an occasional bran mash will materially reduce impactions. —Dr. I. E. Newsom, Colorado Agricultural College.

THE COMMERCIAL HOG No. 1

Breeds of swine are adopted for various reasons personal to the men selecting them, but there can be but one sufficient reason for keeping a breed on one's farm for a period of years. That is profit. Sentiment is all right in its place, but successful feeders invariably have a deep attachment for the breed which will pay the most tangible profit.

The place attained by the hog in the minds of stock feeders is indicated by the great number of breeds that have been originated in the general effort to originate or evolve the ideal pig. Along with this has come an increasing demand for quality. For years the packers have argued that the profit of the feeder and packer lay along the line of the least per cent of loss in killing. The feeder aimed at great growth and a weighty carcass.

Three two-year-olds of the heavy draft type

The packer began pressing his demand for quality by paying higher prices for hogs of more compact build and earlier maturity. This has resulted in the more general standardization of the leading breeds of swine, until the pig that is most in favor in the farmer's feedlot is one that is capable of making a weight of from 250 to 300 pounds at eight months of age, be it a Poland China, Berkshire, Chester White, Duroc Jersey or Hampshire.

Breeders surely have done their part. It has remained—it still remains in large part—for the feeders on American farms to avail themselves of the fruits of the labors of these far-sighted men. Whereas opportunity was for many years the chief lack of the feeder of market hogs, now ignorance is the stumbling block in his path of progress. Years ago improving blood was not at hand, but for the past twenty years an abundance of improving material has been within his reach, and if the inferior hog still continues to outnumber the profitable one on his farm it is the fault of the farmer.

That the present types approximate the tastes and demands of the consumers in general is clearly evident from the increased consumption which is taking our pork products as fast as produced. Much of the future success of our feeders depends upon how largely and wisely they use the pure breeds, choosing the types and quality that the market demands. Pure breeds must be used as the foundation in establishing and maintaining profitable types. The type will soon become uncontrollable and be lost by a crossing of the breeds. Where pure breeds are maintained the breeder is enabled to more effectually guard against deterioration and susceptibility of disease.

Practical feeders look for quality, depth, length and width of form and uniformity of type, regardless of breed, color and fancy markings. The man who is making a specialty of producing pork must grasp every opportunity to improve his breeding stock, the same as the man who is breeding registered swine. Uniformity of type is an important thing in the successful feeding and marketing of hogs, as a lot of uniform hogs will bring more money on any market than a mixed lot. A purebred lot of hogs are much more likely to mature together, and to please the discriminating buyer. The field for improvement along pork-producing lines is wide. There is abundant opportunity for every man who maintains his own breeding herd to select his stock for breeding purposes, with the idea of adding and perpetuating some particular features that shall add commercially to the value of his pig crop at market time.

For instance, there is the flank, a point of great value. One that tells of quality and digestive power, or the contrary. In all herds we find animals with flanks cut up and twists as open as those of a dog. The well let down flank of the hog is of special importance to him over any other meat-producing animal, since the lower cut of the side has become one of the high-priced cuts, under the skillful uses of all parts of the carcass by the packers. The ideal side must carry its thickness well back. This is only one of the many utility points that can be improved by intelligent breeding.

I shall not waste time and space discussing the merits of the bacon breeds of swine, for, owing to the scarcity of the bacon type, there is little effort made to distinguish them as a separate market class. The hog that best meets the demands of the present day feeders is the well-muscled hog, that will supply a fair amount of well-marbled meat, and be fit for market at any desired age. The breed that has proved best adapted to one's climate and conditions in the hands of successful feeders is the safest breed to invest in. In the Northern states color is of little importance, but in the South many feeders prefer a black hog, as being less susceptible to the heat and sun. Some Southern feeders, however, still cling to white hogs, and seem to experience little difficulty from that source.

All practical experience goes to show that crossing of the breeds is a dangerous practice, and that the best results are attained by sticking to one breed. Yet some men still persist in trying to incorporate all the good qualities of the different breeds in one cross-bred animal. The man who is experimenting with several breeds, in a search for something better than he has yet found, may have an important work, but in these days of high-priced feeding materials it is better to let the experiment stations do the investigating along these lines. He can do better by confining his efforts to one of the well-established breeds.

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THE COW FOR YOUR LOCALITY

Do the best we can, it is sometimes very easy to make mistakes in selecting the kind of cows we shall keep. When most of the people about us are growing and using in their herds a certain kind of cow, seemingly with good results, it is apt to appear to us that it would be best for us to invest in the same kind of cattle. "If Joe makes them pay him, why may not I?"

And just here we may make a mistake. There are several things to be taken into account in settling the question, "What kind of cows will be the best for me to keep?" In the first place, let us ask ourselves the question, "What kind of cows do I like to see on my farm best?" To answer this a man may have to go round and see several breeds of cattle, and satisfy himself as to which most appeals to his taste. What might please one often does not another.

Then there is the problem of the geography of one's farm. Is it down on the level, or is it steep and hilly, hard to climb? The man who has a farm that is mostly rolling or level may keep the heavy breeds of cows safely, but these will not do so well clambering about over steep pastures. Here the lighter cows will be best.

And there is a difference even in these. Some light cows have not the endurance they ought to have to enable them to stand hilly pastures. I have in mind now a man who is doing a fine thing for the people in his part of the country by breeding stock which are hardy and adapted to mountainous regions. So sure is he that this breed, which is different from any ever kept in that vicinity, will prove more profitable for the farmers that he is fairly giving money away to help them see that this is so. That is, he is buying calves of this breed, growing them to be yearlings and then selling them to his neighbors for just what they cost him when recently dropped.

Another man whose place I visited not long ago keeps a different kind of cattle, which he believes to be adapted to rolling pastures and a sharp winter climate. To interest his neighbors in this type of cattle he lets them come to his farm and pick out calves he can spare, paying him just about what these farmers would have to pay for the commonest of calves at the same age. This certainly is fine.

Again, in determining what cows one shall keep, one needs to take into account the source of outlet for milk or butter. It is folly for a man to keep cows of a given kind in a locality and under circumstances which mean loss for him. To a certain extent he must adapt his cows to the needs of the situation. If he makes a specialty of cows that produce heavily of milk, the proper thing to do, other things being equal, is to get better cows than any of his neighbors have, cows that give more milk. Then there will be an outlet for his milk and at the same time a market for his surplus stock, as soon as people come to see that his cattle do better than theirs. The same way with cows for making butter. If the section is one where buttermaking is a success, then cows which make the very best butter, and the most of it for the feed given, are the ones to get and keep. A man must, as will be seen from this, be able to size up the situation and adapt himself to it.

There are some good types of cows just now coming into the fashion in certain localities. Seeing the set of the tide, and not taking the pains to post themselves as to the probabilities of the future, a good many men are likely to be swept off their feet, and find out when it is too late that they have invested in cows that are not the best calculated for their particular locality and conditions. The personal equation must not be overlooked, either. Cows that fit into our own peculiar nervous and mental characteristics must be chosen.

MILKING COWS COMPLETELY

It is important to milk cows clean. Milk left in the udder at one milking simply remains there until the next time. Thorough milking will result in getting from a half pint to a pint more milk at each milking during the lactation period. The more a cow is made to produce the more capable she is of keeping up the performance.

Strength, physically, is gained by exercise and using strength. An athlete who uses his strength properly becomes more proficient and capable of performing greater feats. It is much the same with the milk-producing qualities of a dairy cow. When she is milked properly each time, her capacity to produce the maximum quantity is maintained, and she will "get the habit" of transforming her food into milk and butter fat, instead of so much into body fat and growth.

Careless systems of milking will be just as detrimental to her possible performance as careless systems of exercise will be to an athlete who is training for physical strength and endurance. Any one knows when he wants to dry off a cow, even in the flush, that he simply has to leave part of the milk in the

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udder at each milking, skip once in a while, and in a short time the desired result is accomplished. The production is decreased and kept down just the same when cows are not milked properly.

In order to get the best results it is essential that the cows be milked by the same persons at each milking time. A frequent change of milkers means loss in milk every time a change is made. In some dairies, where there are several milkers, the practice is for each milker to sit down to whatever cow happens to be next in order, instead of milking the same cows each time. This is a poor practice. Certain cows should be assigned to each milker, and as few changes made as possible. Then a cow becomes accustomed to the milker and the milker to the cow. The result will be more milk. Secretion of milk is largely a nervous process.

Excitement is another factor that will make it impossible for a cow to give all the milk she is capable of yielding. Everyone has experienced sensations of fright, when the mouth would be dry, and the saliva refuses to flow. It is the same with the secretion of milk when the cows are frightened or excited. Sufficient time ought to be taken to milk the cows thoroughly, even if so much field work cannot be accomplished. A little extra time required to work and manipulate the udder by hand, after the usual amount has been obtained, will pay big dividends, and often makes a profit where otherwise there would have been a loss. To do thorough milking conditions must be favorable in the stable, the cows treated kindly, and regular milking hours practiced.—John Underwood.

PROVIDING CONCENTRATES IN THE RATION

Many American dairymen do not seem to appreciate the value of oil meal as a concentrated food with which to balance the home-grown ration for dairy cows. Large quantities of oil meal are exported from this country to foreign countries to be fed by dairymen of those countries to their cows, and on which they make a profit, after paying the price in this country and the transportation across the ocean.

Besides making a profit on the food in the production of milk they make another profit by adding some of the fertility of American farms to their own soils, thus keeping up the crop producing power of their farms. This condition of things should not be allowed. At present prices of feed for stock in this country we ought not to export a pound of linseed meal or cottonseed meal, or any of the concentrated foods.

One reason why there hasn't been so much said about linseed meal in the various farm and dairy journals the last few years is because it has sometimes been difficult to get this food product, and the export demand has been so great. Our wheat bran and cottonseed meal have been much more accessible, and, pound for pound of protein, have been fully as cheap to buy. The price, however, of these other products has reached a par with oil meal. Oil meal therefore ought to receive more attention at the present prices of concentrates than it has for a number of years past, and I believe it will.

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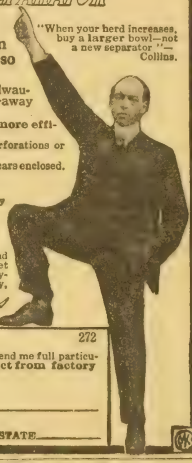

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there is no concentrate to be purchased on the market that will give as good value as linseed meal. Animals which receive no succulent food, and are fed a dry ration composed of such grains as corn and oats, will do better if a portion of these are sold and a few pounds of linseed meal substituted than they will on a full ration of such cereals. This is because the linseed meal contains a larger percentage of protein, helps balance the ration better, and because it also has a slight laxative effect upon the bowels, which keeps them in better shape, and maintains the animal in better condition.

Where silage and clover hay are fed as the bulk of a ration to dairy cows, half oil meal and half linseed meal, in connection with the corn silage and clover hay, is apt to make a ration which is a little too laxative, and cottonseed meal will act as a corrective. Yet I know some good dairymen who feed linseed meal with clover hay and corn silage.

A neighbor of mine, who has a dairy of 60 cows, feeds clover hay and corn silage, about seven to eight pounds of the former and thirty pounds of the latter. Then, as a grain ration, he feeds four pounds of linseed meal and two pounds of wheat bran, getting most excellent results. I have fed my cows considerable linseed meal with the best results.

After the animals get used to the meal it is not as laxative as at first, and there need be little trouble from this source. Linseed meal is highly digestible, is palatable, all cows like it, and it is very nutritious and strength giving.—John Underwood.

IT PAYS TO USE THE TESTER

No dairyman has the right to make the statement that a creamery is not giving him a square deal on tests or weights, unless he is in position to substantiate that statement by having scales and a testing outfit of his own, and by using them carefully and regularly to verify the weights and tests of the creamery.

The Babcock method of testing milk and cream is as certain to give correct results in honest hands as are the balance scales in giving weights or the yard stick in the measuring of distances. The simple variation in the test of milk and cream is no indication of dishonesty on the part of the dairyman, the driver, or the creamery.

The causes of the variation in the tests of cream are many. That there is about the same amount of milk, that there is about the same amount of cream, and that the separator has been turned at about the same number of revolutions per minute each time in use, is no indication that the cream will be the same. Many dairymen think, however, the results should be alike. But those who have a testing outfit of their own know that there are many causes of variation in the tests of cream, other than the lead pencil of the creameryman.

Before I purchased a Babcock tester I could not be convinced but that the creameryman was cheating, but the outfit soon revealed to me that other conditions were causing the variation in the tests of cream, and the creameryman was dealing entirely on the square. There may be some creamerymen who

use their lead pencils unsparingly on the cream tests of their friends in order to show a profit, or to take from some and give to others with the design of getting and holding patronage. But no dairyman has a right to think that or say that unless he has weighed and tested the cream himself, and knows to a certainty that he is right.

To have a sample of cream tested by another creamery, or even by another dairyman, is not fair to the creamery one is dealing with. No man has an honest right to place his business friend at the mercy of a competitor, or in the hands of some one who has no interest or skill in handling the Babcock test. Any dairyman who neglects to weigh and test his cream must place his business in the hands of the creameryman, and will have to depend on his confidence in the honesty of that creameryman for results.

Dividing the cream among several creameries can give no true idea of the accurate results of the tests of the cream, and can in no way pay for the neglect to attend to one's own business. There is only one method of finding the honest creamery, or to get honest returns from the creamery that may be inclined to manipulate the tests, and that is by the regular and careful use of the scales and Babcock testing outfit at the dairy by the dairyman. I do not write in the interest of the creameryman, but to urge the great need of the use of the Babcock test by the dairyman, that he may satisfy himself that there are many causes for the variations in the tests of cream that he has never thought of, and that he can often save himself much money by checking up unintentional errors on the part of the creamery

It is not very difficult to learn to do accurate work with the Babcock testing outfit. It is only a question of taking accurate samples, carefully following directions in each stage of the operations, and then reading the results on the graduated necks of the test bottles with an understanding of the proper allowance to be made. The whole operation must be based on getting an accurate sample from the can and for the test bottle. If these samples do not accurately represent the average of the whole body of the cream, the final result will be that much off from an accurate determination of the average test of the whole body of cream.

Therefore the taking of samples of cream to be tested is the most important part of the whole operation. When the testing is so simple, and the cost of an outfit so small, I cannot understand why it is that so many cream sellers run the risk of loss of money and friends by not owning and regularly using such an outfit. The satisfaction of knowing when he is getting a square deal from a creamery should be worth many times the cost in time and money to any cream producer in the regular use of scales and Babcock test.—U.

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Send me the shoes as marked below. I enclose herewith remittance for $..... If I do not find them entirely satisfactory to me I will return them at your expense, you to return my money.

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Name.....

Post Office.....State.....R. F. D.....

GERATY'S FROST-PROOF CABBAGE PLANTS FREE

Everyone who has a garden wants Cabbages. They need little space—a foot or so apart—and a garden as "big as a handkerchief" has room for at least 50 plants. We have just made arrangements with the biggest Cabbage Plant growers in the country to furnish us with extra-choice "Frost-Proof" plants which we are going to give away FREE. These plants are grown on an island just off the coast, where the brisk, cold breezes of the Atlantic make them tough, hardy and healthy. The big advantage is that you can plant them in the field **a month or six weeks earlier than home-grown plants,** which means solid heads three or four weeks earlier.

These "Frost-Proof" plants are guaranteed to stand a temperature of 10 degrees above zero. Geraty's "Frost-Proof" Cabbage Plants are hardier, better, and worth more than the ordinary plants. We are so sure of this that we agree to refund the full value of the plants if they are not satisfactory and do not produce earlier and better heads than you grow from other plants—you to be the judge. Geraty's "Frost-Proof" Cabbage Plants will be shipped direct to you from Yonges Island at the proper time for planting in your territory.

GET 50 OF THESE PLANTS FREE We will send 50 of these "Frost-Proof" Cabbage Plants charges paid to any person sending us 35 cents for a subscription to FARM NEWS.

Address FARM NEWS Garden Department Springfield, Ohio

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If you are thinking of buying an insurable incubator or brooder you should get our big 1915 catalog. It tells all about the new 1915 improvements on (16)
PRAIRIE STATE
Incubators and Brooders
Also contains about 60 pages of poultry success secrets—how to feed, rear and breed; treat diseases, erect poultry buildings, grow winter feed, etc. Most practical book ever offered FREE. Write for it TODAY.
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BEST MADE Lowest in Price
FEED your hens cut green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have cut bone fresh every day for your poultry. Send at once for free catalogue. Wilson Bros., Box 238, Easton, Pa.

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Latest Book "Profitable Poultry," finest published; 144 pages; 210 beautiful pictures; complete volume, how to succeed with Poultry; describes busy Poultry Farm with 53 varieties of pure-bred birds. Gives lowest prices on fowls, eggs, incubators, grain sprouters, etc. This book 5 cents. Berry's Poultry Farm, Box 36, Clarinda, Iowa

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POULTRY ODDS

Notice how the hen goes hunting lime in winter to make that egg shell unless you provide it handy for her. It's odd, if you have never noticed, how about three in the afternoon, she goes hunting the lime on fences and outbuildings.

Mark your pullets that have laid earliest this winter, and keep these for breeders. You will also find, if keeping a pure breed, that your best-laying hens will not measure up to the standard at all in shape or weight and after awhile in coloring.

In Colorado and certain far west states, the genuine old fashioned bed bug makes life a torment for the housed poultry, while setting hens are often bitten to death by them. Keeping the hens covered with vermin powder and something of the same kind in the nests, is the only chance for the setting hen.

Whatever the feed, one must bear in mind that to produce an egg weighing 1.8 ounces every day, a hen weighing four pounds or under, will require 0.48 ounces of protein, 0.2 of an ounce of pure fat, and 2.3 ounces of carbohydrates or their equivalent in fat, and in extremely cold weather more carbohydrates and fat.

The eggs from fowls of the American breeds—Plymouth Rocks, Wyandottes, in their varieties, and Rhode Island Reds—are sometimes quite a dark brown, but the eggs from average fowls of these breeds are not deeply tinted, while practically all the non-sitting breeds—Minorcas, Leghorns, Spanish, Polish, Hamburgs, Houdans, etc., lay white eggs, though occasionally some of these lay slightly tinted eggs.

FAILURES, THEIR CAUSES AND RESULTS

Their are failures in all classes of business. There are men who fail even when opportunities are golden. The poultry business is no exception. Men must be adapted to the work. They must have grit, pluck, ambition and cash.

Simply because one man fails is no indication that no one succeeds. To make a success it is necessary to have both experience and money. A beginning can be made without experience, but it must necessarily be on a small scale. The beginner must grow with his business. The successful large farms of the country today started in a small way, and grew as experience, facilities and capital warranted.

Poultry keeping is not the "easy job" so many imagine. The sameness of the work soon discourages the faint hearted. It means every-day labor, Sundays included, and there is no exception on a religious or a patriotic holiday. The man who can master his own disposition, and can put the same vim in the work day after day, is the man who succeeds. The man who gets the "blues" falls by the wayside.

It will take several years to get a poultry plant on a firm foundation. There is always something new cropping out, and no man ever lived that knew it all. Why should men, who enter a business they know nothing about, expect to be successful from the start? Can any business of any class offer such a guarantee? There is no line of work that a person can take up that will yield as much profit for the money invested as will the poultry business, carried on by intelligent men in an intelligent manner.

Capitalists rub their hands in glee

58 Breeds Fine Pure-Bred Chickens, Ducks, Geese, Turkeys, Guineas, Stock and Eggs at low prices. America's finest Poultry Farm. 8000 prizes. Largest Catalog 4c. A. A. ZIEMER, BOX 17, AUSTIN, MINNESOTA

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Factory prices. Direct to you. Freight paid. Have a better roof, every way, and save money by acting now. Offer soon gone. More for your money every way. Quick action important. Costs nothing to find out. No obligation. Write now—RIGHT NOW.

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Give size of roof, if possible, when you write. We will quote prices on entire job. New Bargain Circular contains prices that will make you gasp with wonder at savings they offer. Write now for Catalog No. 260

THE EDWARDS MANUFACTURING COMPANY
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when they are able to receive five per cent on the moneys they invest. Yet poultry will give dividends that would stagger the money markets. But all these dividends are measured by the amount of the investment, by the quality of the care given, and by the methods of management.

Some years ago the writer looked into the causes of the average failures, and this is what was learned: Poor men failed because of the lack of working capital, compelling them to go into debt. Rich men failed for the want of a reliable and able man to run the plant. The rich man invests thousands in buildings and stock, and looks for returns in accordance. Men rent ground instead of buying it. Men buy stock that do not fit the markets. Men overestimate their capacity. Men try to walk before they are able to creep.

The agricultural colleges and the experiment stations that are taking up and teaching the poultry branch, are doing a great work for the industry. They are making good, thorough poultrymen. But when these same men are thrown on their own resources they will find, that unless they have capital and the essentials (pluck, grit, perseverance) to accompany the knowledge they have acquired, they will meet with failure.

Some years back Hammonton, New Jersey, became famous as a broiler center. Some years later there were failures—not a few, but many of them. Why? Is the broiler branch a failure? Let us see.

The book, "Money in Broilers and Squabs," says the men in Hammonton failed, first, because they either worked on borrowed capital, or they were compelled to go into debt for feed and running expenses, as they invested every dollar they had in making the start.

Second, they did not grow their own eggs, but depended on buying them from farmers, who gave no special care to their stock, nor in handling the eggs after they were laid. Third, they had careless business methods. Fourth, they were inexperienced. They just jumped right into the business, believing that the industry was like a machine, and that all they had to do was to turn the crank. Fifth, they overcrowded their stock. Sixth, they were working on rented ground. Seventh, they lacked system.

To summarize, the successes are measured by starting small, gaining knowledge, and expanding as experience, facilities and ready cash warrant. The man behind the hen must be up-to-date, wide-awake, energetic, and have pluck. He must be a man that does not tire, who never gets the "blues." The farm must have egg production as the foundation, and the meat product as by-product. Experience and investigation have proved that those are the successful farms, while the plants with but a single branch are taking a great risk.

Over exercise will toughen the flesh even of a young fowl.

A stag furnishes better eating than a male that has been mated.

Hens, as a rule, make better roasting fowls than do male birds.

The demand for table poultry continues to be greater than the supply.

Carefulness in dressing pays for the extra pains taken. The work can not be done too well. —M. K. B.

Eggs consist of protein and fat, water and mineral matter. It is the protein or nitrogenous matter that builds up and repairs the tissues of the body, while the fat supplies energy. The white of an egg is often said to be pure albumen, but it also contains phosphoric acid and sodium chloride or common salt. The yolk contains the fatty part of the egg, phosphorus, calcium, magnesium, potassium, and iron. Eggs also contain sulphur, and this probably accounts for the dark stain left by eggs on silver.

The wisdom of the past is worth nothing except as it is put into practical use by the present.

Get the whole story of the Belle City's World's Championship Hatches in my great Free Book "Hatching Facts." The winners of the 21 World's Championship Hatches tell the story of their money-making, prize-winning success in their own words, with their

21 Times World's Champion Belle City

besides giving you full information, facts, proofs, about these wonderful hatching machines. 327,000 in use.

Write for "Hatching Facts" Today—A Postal Brings It

It tells everything. Illustrates the Belle City Incubator and Brooder in actual colors—shows what makes the Belle City the 21 Times World's Champion—gives facts about hatching success, bigger and better than you have ever heard of before. Book gives my **$800 Gold Offers.** These offers open the way for you to greatly increase your poultry profits this season. Book gives full particulars of my 1-2-3 months' Home Test Plan, my 10 year money back guaranty, and my low prices—*Freight prepaid*—will surprise you. Write today to Jim Rohan, Pres.

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Accept this sensational offer today before it expires! Think of it! A Time-Tested, High-Grade, 135 Egg Incubator and 135 Chick Brooder at this remarkably low price. Perfect in construction. 100% hatches reported often.

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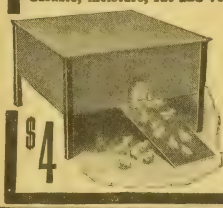
Built on U.S. Gov't Specifications as outlined in U. S. Dept. of Agriculture Farmer's Bulletin No. 236, Page 20, showing how a first-class incubator should be built, conclusively proving its superior merit. Has metal-covered body and legs; non-shrinkable, durable; moisture, rat and vermin-proof. Safe, reliable lamp; unbreakable, can't explode. Deep nursery and egg chamber; automatic heat regulator; wide dead-air space. Attractively finished; reinforced. Backed up by five year iron-clad guarantee. Thousands in use everywhere.



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Remit by postoffice order, bank draft, registered letter or certified check today. We prepay freight east of Denver. When shipment comes try incubator for thirty days, hatch with it. If dissatisfied, send it back and your money will be instantly refunded. You take no chances. We are an old established firm and back up everything we say. The time to buy is ripe. Send your order now.

NATIONAL INCUBATOR CO., 1842 19th Street RACINE, WIS.

Wisconsin Wins In Big Hatching Contests EVERY YEAR

130 Egg Incubator 150 Chick Brooder BOTH For $10 Freight Paid East of Rockies 180 Egg Incubator and Brooder $12

Wisconsin Incubators won in 1910, 1911, 1912, 1913 and 1914 in National Hatching Contests—Thousand of machines competing. Catalog tells all about it—and why Wisconsins are winners. If ordered together—

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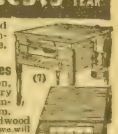
Wisconsins have hot water heat, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under tray. Incubator and Brooder shipped complete with thermometers, lamps, egg-testers, all set-up, ready to use when you get them. Incubators finished in natural color showing high-grade Calif. Redwood lumber we use—not painted to cover up cheap material. Send for catalog and we will send you a sample of the material. Then you can compare it with the kind others use. If you will do this we know you will order a Wisconsin. Money back if not satisfied.



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Ironclad TRADE MARK Wins in 2 Biggest Hatching Contests EVER HELD

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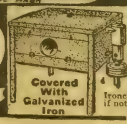

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Mrs. C. F. Merrick, Lockney, Tex., with her 140 egg Ironclad Incubator wins in the last hatching contest held by the Mo. Valley Farmer and Neb. Farm Journal. She placed 148 eggs in the incubator and hatched 146 strong chicks. Think of that! You can now get these famous winners—

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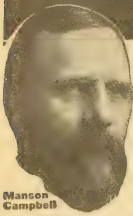

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My Book also explains the quickest and cheapest way to clean and grade any grain or grass seed—how to remove wild oats, chess, cockle and wild buckwheat from **Wheat** or **Rye**; how to grade Wheat or Rye; how to remove from **Oats**, mustard, kale, wild peas, quack grass, cockle, straw joints, thistle buds; how to separate timothy, wheat and vetch from **Oats**; how to grade out twin oats, pin oats, hull oats; how to get perfect oats for drill. **Barley**-Brewers and seed grade free of Wild Oats and Mustard or any other weed. **Beans** and **Peas**—How to clean, grade and remove splits and defectives from 18 varieties, including cow peas. **Corn**—How to remove cobs, chaff, silks, broken grains, shoe pegs, tips, butts and uneven kernels; how to get flat, even grains for 98% perfect drop. **Clover**—How to remove buckhorn and 62 other weeds without waste. **Timothy**—How to remove plantain, pepper grass and 33 other weeds. Saves volunteer timothy from oats and wheat. **Alfalfa and Flax**—How to remove fodder and fox-tail; heads, stems, fibres, wild oats, mustard, barn-yard grass, false flax broken wheat; shrunken, frozen or droughted seed.

This is a large and handsome Book profusely illustrated in colors—8 x 11 inches—fully protected by U. S. Copyright—a veritable cyclopaedia of practical suggestions on Seed matters. **Easily worth $100 to any man who farms**—yours **at the cost of a mere postal.**

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This is the best offer I ever made. Don't fail to take advantage of it. Simply write these words on a postal **"Send me your Crop Book."** Then sign your name and address and mail to my nearest office. The Book will come by return mail—all carrying charges paid by me.

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PENN'A SALT MFG. CO.
Manufacturing Chemists
PHILADELPHIA

The Black Quaker is on every label

Selling End of Farming

(Continued from Page 4)

soured milk, that makes you live to be a hundred. He procured some of the dope and learned how to make this new brand of "buttermilk." It sold at fancy prices at drug stores, hotels and at private residences. What formerly had been fed to the hogs at a value of about a cent a gallon was converted by brains and skill into a highly desired article of human food, and brought from twenty to forty cents a gallon.

The parcels post and the corresponding low express rates offer opportunities to farmers living within 150 miles of a city, to build up a profitable trade in certain products direct with the consumer.

A favorite way in some localities is to hunt up by advertising or personal solicitation a set of good-paying customers, who think first of quality and second of price, and ship a weekly hamper of eggs, dressed poultry, butter, cottage cheese, fresh or cured meats, vegetables, fruit, flowers—in fact anything a farmer uses on his own table, and all packed according to the special needs or whims of the customer. The empty hamper comes back at slight cost.

There is no limit to the things a farmer's family can do in the way of producing something else besides corn, timothy hay and fat-stock for the "quotation" markets. It takes a little imagination and some nerve to get it started; it requires some brains and commercial ability to keep it going. The prospect for making the farm pay commensurate returns with industry and ability is an attractive one to the man or woman of ambition and enterprise.

But before attempting anything of this sort, the reader should get this everlastingly fixed in his mind: QUALITY BEFORE QUANTITY.

The Time to Plan for Spring

(Continued from Page 5)

With a little foresight vegetables can be so arranged that there will be a succession from the time of dandelions. It is well to have a small hotbed at least. Common window sash may be used and make the frame to fit the sash. In such a sash early lettuce, radishes, cabbage and tomatoes may be started. Early beets, Swiss chard, early carrots, peas, radishes, parsnips, salsify may be planted as soon as the ground is fit in the spring. A little later early cabbage may be transplanted and also the kohl-rabi. When the weather is warm enough, and danger from frosts is over, the first sweet corn, more lettuce and radishes, onions, and endive may be sown. In the latitude of New York State cucumbers, late carrots, peas, corn, beans of all kinds, late squash, late turnips, late cauliflower and tomatoes may be set out about June 1st. A little later winter radishes, mid-season corn and lettuce may be sown. As one has time and room late cabbage, late cauliflower, late Brussels sprouts, and late kohl-rabi may be set out. By consulting any seed catalog certain varieties of all vegetables will be recom-

mended as late or early. It is always best to deal with some reliable firm, even if the seed does cost more.

If the horse cultivator is to be used the rows must be at least 30 inches apart, while many hand wheel-hoes need only 18 inches, and some less than that. If a garden is properly planned and worked a vast array of vegetables may be grown cheaply, and with but little hard work. If the proper care and attention is given to the home garden it may be made the pleasantest and most profitable part of the farm. Given but little or no attention and it becomes the weed seed-bed of the farm.

Farm Fertility

(Continued from Page 10)

fertility found in the manure, and it makes its principal growth later in the season, after the plant food in the manure and sod have become available. When clover sod is highly manured the bacteria in the manure, after completing their work or releasing the plant-food elements in the manure, sieze upon the clover and grass roots and stubble and hasten their decomposition, thus insuring the growing crop a supply of plant food from start to finish.

Every practical farmer knows that excellent corn can be grown by the use of manure alone, and that good timothy can be grown after the corn, but I believe that under present conditions of general farming better results can be obtained by growing legumes, and using a fertilizer carrying liberal quantities of phosphoric acid and potash. Especially is this true when the hay is fed out on the same farm, for the legumes not only furnish nitrogen while they are being grown, but increase the value of the manure when they are fed to stock on the farm.

The second year is usually devoted to a cash crop, and when the corn has been well cultivated during its growing season the soil will be in ideal physical condition for a crop of potatoes or other cash crop. The nitrogen will be readily available, and with a liberal application of a mineral fertilizer a maximum crop will be insured.

The plant food not required by the cash crop will be saved if the ground is sowed to wheat in the fall, and the grain will not be apt to lodge, as is often the case on freshly manured ground. I advise wheat in the rotation because it requires a refined fertility. It is a great conserver of fertility, as it prevents the loss of plant food during the winter. Besides this, many farmers are finding fall wheat a more satisfactory crop to seed clover with than spring grains.

Under intelligent farming the nitrogen question is easily solved, but not so with the phosphoric acid and potash. If these elements are once exhausted from the soil there is no way to return them, except by manure in large quantities, or chemical plant foods. The whole matter depends upon whether we can afford to waste excessive amounts of nitrogen manure to make up for the lack of mineral plant foods. By following intelligent methods I believe that we can better afford to buy chemicals to supplement the farm manures.

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World-famous Tenor, says:

"Tuxedo completely satisfies my tobacco taste. It is mild and has a delicious flavor. Most important of all, from a singer's standpoint, Tuxedo does not irritate my throat."

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The non-irritating quality of Tuxedo which Caruso praises is due to the original "Tuxedo Process" by which the tobacco is treated. This process refines the tobacco and absolutely removes all bite and sting.

Many thousands of men think they cannot smoke a pipe, for fear the tobacco might burn or parch their mouths. Tuxedo has absolutely done away with any such possibility. You can smoke Tuxedo all day long, pipeful after pipeful, without any irritation whatsoever—indeed, with increasing pleasure.

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is made from rich, mild, fragrant Kentucky Burley—acknowledged to be the finest pipe-tobacco in the world—aged until it is pipe-perfect and smokes coolly and slowly.

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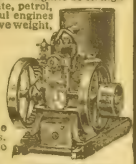
Horizontal Engine

ELLIS ENGINES



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$2.50 Worth to Test only 10 cts.
We will mail the following 25 Packets choicest Fresh, Reliable Vegetable and Flower Seeds for 10c.
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BEET, Crosby's Egyptian, best, sweetest early sort.
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CARROT, Perfect, Half-long, best table sort.
CELERY, Self-blanching, best, crispest.
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WATERMELON, Deposit Early, earliest, sweetest.
ONION, Prizetaker, weight 3 lbs., 1000 bus. per acre.
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It's my introductory offer—it's to acquaint you with my worth for pure seeds and low prices. I will send on receipt of 10c to cover packing and postage 5 large 10c packets (not samples) of the following: 1 Champion Pickle Cucumbers, 1 Porterhouse Tomato, 1 Prize Head Lettuce, 1 White Globe Onions, 1 G. E. Mammoth Sweet Peas.
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CYPRESS, well made with cross bar, blind tenons, white leaded in joints. GLASS, $1.50 per Box.
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IDEALS IN COMMERCIAL GARDENING

By Hiram E. Greiner.

In commercial gardening there are certain ideals that we must have in mind, for the success of any business depends to a large extent on the clearness which its promoter has in mind the aims and purposes which he wishes to attain. Many farmers grow certain crops because their fathers grew them, or because they can grow them well. In these times it is essential for the grower to have in mind the destination of the crops, and then fit the crop to its use. Of course certain attention must be given to climatic conditions, adaptability of soil, etc. In commercial gardening we must consider:

YIELDS. There is at best but a small margin on many of the vegetables grown for the market. The grower must secure a maximum yield for a minimum outlay. The net returns will determine for each man to what extent he can intensify his methods. If the grower is located near a large city, where the land is costly, it may be more profitable to follow the intensive methods, while if the land is cheap the extensive methods may pay best.

EARLINESS. The early production of crops is a very important factor, for it gives the gardener higher prices for his products, and it also gives him a lead on the market. If a grower once has customers for his early crops he is pretty sure to keep them for the rest of the season. By receiving the higher prices for his product he receives a greater return for less labor in handling the extra product. The greatest reason for earliness is the fact that it gives the grower a chance to plant a second crop on the same area, and thus secure two crops from one field. Men often plant late cabbage between the rows of early potatoes, and thus when the potatoes are removed there is a crop of cabbage coming along. If there is an early crop, and the land is low in humus material, it is possible to plant a cover crop for the organic matter, and thus improve the soil for the succeeding crop.

KIND OF MARKET. It is very important that the grower have definite ideas as to how he intends to dispose of his crop when grown. Are you growing for a special market that will take all you have of a certain vegetable, regardless of quality, or is this crop to be placed in open competition with other crops? If you are in competition then it is necessary to understand the demands of the market. It is necessary to study the kind of vegetables that are stable sellers and those that do not sell well. It is necessary to study these market conditions before planning any cropping systems. It is necessary to know whether the market demands certain kinds of packing in special boxes or not. This is the day of special packages, and sometimes a large increase in price is received if the vegetables are specially wrapped and carefully packed. In many places very little attention has been given to the grading and packing. Often it pays well to sort the vegetables in various grades, and label the packages with the grower's name. All of these things must be considered in planning the next year's crop.

QUALITY. Times are changing in regard to quality. In many markets it was possible to sell anything in the form of a vegetable, but the consumers are beginning to appreciate quality. If the grower can find a variety with good quality and even poor yield, it may often pay to work up a trade for the quality. A few of the vegetables have both good quality and are good producers. Where this is found these varieties should be grown.

Arranged in rows, like this, the garden is easily cultivated with one-horse implements

LOCATING THE GARDEN

Since the work of caring for the home garden is done in spare time, the garden should be located as near the house as possible.

The best site for the garden is a slight slope toward the south. Such a location dries out and warms up rapidly, and will produce early crops.

Good natural drainage is necessary. The soil that is heavy and soggy, gets in shape for cultivation slowly, is cold and retains moisture. The slope should be barely sufficient to drain off the excess moisture. The fall should not be so great that the soil will wash after every downpour. All depressions that will catch and hold the moisture should be filled.

For the early garden sandy soils are the best, since they dry out quickly, and can be plowed and planted much earlier than the heavy soils.

The method of cultivation should determine to a large extent the shape and size of the garden. If horse cultivation is to be employed, the garden should be long, which will facilitate cultivation and save space. If hand cultivation is to be practiced, the best shape for the garden is as near a square as it is possible to make it, since all parts of the garden can be reached with a minimum of walking, and an economy in fencing is effected.

The hand-cultivated garden need not be over half the size of the one cultivated with horse tools, for the reason that the rows can, and should be, planted much closer.

The garden should be well fenced to keep out all farm animals, as well as rabbits. A wire fence will do very well if the garden is situated on a slope, and has higher ground to the north and west of it. If, however, the garden is in an exposed location, a board fence on the north and west sides will not only make the soil warmer, but will serve as a wind-break.—T. Z. R.

GETTING HUMUS IN THE GARDEN SOIL

Well-rotted stable manure is the best fertilizer for the garden. Stable manure not only supplies the fertilizing elements needed by growing vegetation, but adds that requisite for the growing of large crops—humus. No matter how rich the soil may be in plant food, if it is very deficient in humus it will not respond to the efforts of the gardener. Humus increases the moisture-holding quality of the soil. A soil lacking or deficient in humus, packs easily and dries out quickly. Humus makes a soil porous, thus catching and holding the moisture, and giving it up to the plants when needed. The porous condition of the soil also permits the entrance of air, which helps to liberate the plant food.

Many gardeners hold to the idea that commercial fertilizers are injurious to garden soils, they thinking that the commercial article makes soil pack badly after every rain, and causes it to get very hard in extremely dry weather. This condition is not brought about by commercial fertilizers. It denotes an absence of organic matter or humus in the soil.

Where barnyard manure can be had in sufficient quantities the supply of humus in the soil can be kept up without recourse to other methods. But where the supply is limited, and the fertility of the soil must be kept up with commercial fertilizers, the humus in the soil must be supplied by the growing and plowing under of green crops, or the addition of leaves, straw, or compost to the soil.

All garden soils that do not carry growing crops during the winter should be planted to a cover crop each fall. The cover crop serves several useful purposes: If the garden is situated on even a slight slope, a cover crop will prevent much of the soil from washing away; the cover crop prevents the leaching of the fertility from the soil; the cover crop, when plowed under in the spring, will add an immense store of humus to the soil.

Humus and some fertility can be

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Experience unnecessary—we'll teach you the business—and how to make more a week than most men make a month—assign you exclusive territory and give you a big start. Mauller made $56 clear profit first ten hours. Fitter sold 26 in 3 days. Brandt sold 36 first week. Brower sold 38 in one day.

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One packet (enough for a start) each of the 10, and OLDS' DESCRIPTIVE CATALOG, all for 6 cents (three 2c stamps).

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The only Light, Comfortable, Economical, Absolutely Waterproof GENERAL SERVICE SHOE for men and boys.

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The only all-season all-purpose shoe ever invented. Warm in winter—Cool in summer—always dry, shapely and comfortable. The World's Greatest Work Shoe—Play Shoe—School Shoe. No more hard, twisted, leaky shoes. No more Big Shoe Bills. No more corns, Rheumatism, coughs or colds. No more Big Doctor Bills. Learn today about the "Sole of Steel"—the instantly renewed leather taps—the shoe of the light, springy step that makes you safe, sure-footed and tireless, and how anyone can Try my "Steels" Ten Days, FREE. Sizes for men 5 to 13, all heights—for boys 1 to 1.

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Tells how to Save Your Feet—Your Health—Your Money. Write me today.

N. M. RUTHSTEIN, Steel Shoe Man, Dept. 147, Racine, Wis.

added to the soil by decaying vegetation. The dead leaves, straw, etc., should be used for this purpose. The practice of making a bonfire of the leaves, straw and cornstalks is one that should be condemned. When burned, the greater part of the fertility removed from the soil by the parts burned, is lost forever. When plowed under or composted and returned to the soil, the fertility removed from the soil is not only returned, but an immense quantity of humus is added to the soil.

A soil that contains large quantities of humus will get warm earlier, and thus be in shape to grow early vegetables much quicker than the one deficient in organic matter. A hard, compact soil reflects the sun's rays, whereas the porous soil absorbs them. Experiments conducted at planting time have shown that the soft mellow soil is four or five degrees warmer than the soil that runs together and packs easily.—T. Z. R.

WINTER CARE OF ASPARAGUS

Much of the success with asparagus results from treatment at other times than during the growing season. In fact, the yield depends but little on the immediate treatment during the cutting season. "The first step in the winter care of asparagus," says Professor Montgomery of Ohio College of Agriculture, "is the removal and burning of the tops at the close of the season. This serves a two-fold purpose: (1) it destroys many of the spores which are responsible for the prevalence of asparagus rust, and it eliminates to a large degree the hibernating places for the asparagus beetle during the winter season." He says that at the university gardens, the cutting of the tops is delayed until after heavy frost. A sharp hoe or scythe is used to cut the tops which are gathered into large heaps and when reasonably dry are burned. The tops are extremely difficult to work into the soil in the fall of the year and the necessary organic matter may be more easily added as barnyard manure.

The next step is to apply stable manure to the ground during the winter after the ground has frozen to some extent. Apply the manure at the rate of from 20 to 30 tons per acre and spread evenly over the surface. The manure should remain on the ground until spring when the coarser portion may be removed to allow a thorough discing of the ground before the edible stalks approach the surface. Such treatment largely increases the organic matter in the soil, adds some fertility, protects the plants from excessive freezing, and, provided the mulch is removed in early spring, advances the growing season. If the mulch is not removed early in the spring, it only serves to retain the frost in the ground and so delays growth.

STRAWBERRY CULTURE

My experience in cultivating the Glen-Mary strawberry is one that will stand the test. For in my opinion that variety excels all others. In April, 1910, a tract of land was selected which measured 32 yards square. It was rich, loose, smooth and level. It was plowed and cultivated, all refuse and sod raked off, and was graded as evenly as if intended for a summer garden.

I then drew the rows six feet apart, to allow sufficient space for the runners to spread, setting the plants 15 inches apart in the rows, the runners being set straight ahead in the rows with the plant. (No other variety was used in between as recommended by most of our fruit growers.)

An abundant supply of manure was then used, and the patch was kept well hoed and free from weeds.

In very late autumn, when the ground began to freeze, I covered the plants with mulch, and after the frost went out of the ground in the spring, the heavier mulch was removed, while a thin coating of it was left on.

It was then fertilized with ground bone, and by June 18 the vines were loaded down in abundance with ripe

Canadian Wheat to Feed the World

160 ACRE FARMS IN WESTERN CANADA FREE

The war's fearful devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and there is an unusual demand for Canadian wheat. Canada's invitation to every industrious American is therefore especially attractive. She wants farmers to make money and happy, prosperous homes for themselves while helping her to raise immense wheat crops.

You can get a Homestead of 160 acres FREE and

Other lands can be bought at remarkably low prices. Think of the money you can make with wheat at its present high prices, where for some time it is liable to continue. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of **Oats, Barley and Flax.**

Mixed farming is folly as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent.

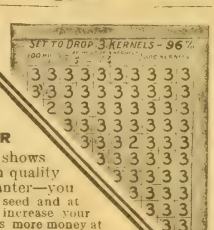
Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war.

The Government this year is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or

M. V. McInnes, 176 Jefferson Ave., Detroit, Mich.
W. S. Nethery, Interurban Bldg., Columbus, Ohio
Canadian Government Agent.

SAVE SEED—
INCREASE THE YIELD—
WITH A J. I. CASE POWER DRIVE PLANTER

PLANT your corn with the greatest possible accuracy. Repeated tests in actual work prove that the J. I. Case Power Drive Planter is accurate—also durable, light draft and is easily operated. Accompanying chart shows clearly the high quality work of this planter—you save all waste in seed and at the same time increase your yield, which means more money at harvest time.



Like a Cash Register

One farmer who witnessed a demonstration remarked "That planter is as accurate as a cash register. I've never seen anything like it."

All tests were made with uncracked corn. This makes the results more unusual, as the kernels varied considerably in size.

All plates are polished so smooth that kernels slip over the surface easily. Being extra large, they revolve more slowly and corn has longer time to fill the cells before it is forced past the cut-off. Special plates can be furnished to plant peas, beans or almost any kind of seed.

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No Clutch on Drill Shaft

There is no clutch on the drill shaft. The driving mechanism is run by the slowly moving main axle and is entirely idle between hills, in other words, this mechanism is in operation only when a hill is being dropped. Thus wear and tear on the implement is greatly reduced.

96 to 99 Per Cent Accurate

Not three in one hill, one in the next and five in the third—but three kernels in every hill, almost invariably. With the Power Drive Planter set to plant 3 kernels, it dropped 100 hills 96 per cent perfect, set to plant 4 kernels, 98 per cent perfect, and 2 kernels, 99 per cent perfect. Surely a remarkable record.

Saves Seed—Pays for Itself

A J. I. Case Power Drive Planter putting in from 65 to 75 acres of corn will in a short period of time save enough in seed alone to pay for itself. Investigate this planter before you buy. It will mean a saving in seed and bigger corn crops. Write us today—no cost or obligation.

J. I. Case Power Drive Corn Planter

J. I. Case Plow Works, Racine, Wis.

Tell me how I can save seed and increase the yield with your planter. Send your 1915 Calendar FREE.

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berries, and the season lasted until the fourth of July.

I did not remove the runners, and they also were loaded with berries, and spread so that I could scarcely find a path to walk between the rows. These berries ripen thoroughly to a deep rich red color.

I do not approve of plowing or disturbing the patch after berry season is past, as a drouth is liable to take place and destroy every root and vine when disturbed during the hot period. So I only covered the patch with rich mulch in late autumn, and in the following April plowed out just the plants that were in the path centers to set out a new patch, and refertilized the old one with ground bone.

WHY WAR PRICES WILL NOT BENEFIT THE FARMER

The present European war is raising prices. Wheat may go to $1.50 or $2.00 per bushel, but only 23 out of every 100 farmers raise wheat, yet all farmers use flour. Potatoes may advance in price, but less than one-half of the farmers of the United States raise potatoes. Potatoes are found on the table of practically every farmer. Cotton may sell for 15 or 20 cents a pound. Cotton goods are found in every farm home, but less than 25 per cent of the farmers raise cotton. In past years, two-thirds of this crop has been sold in Europe. The war has closed European factories, and instead of advancing, the price of cotton may decline. At the present time no farmer raises everything he uses. War prices may benefit him in some respects, but the loss in others is sure to overbalance the gain.

It is the speculator and not the producer, who gains by sudden fluctuations in prices. This is illustrated in the case of the man who raises sugar beets. The price is fixed this year and a contract signed for next year's crop. Last year the sugar company paid $5.00 per ton for beets and retailed sugar at $5.00 per hundred. When war was declared the price jumped to $9.00, but has since dropped to $7.00 and $7.50. When it was selling sugar at $5.00, the sugar company was making a comfortable profit. All over that is added gain. At present sugar is retailing at $7.50, which is an advance of 50 per cent since war was declared. The company had contracted to pay $4.50 per ton for beets. Since the sudden advance in the price the company can obtain for the finished product, the price of beets has been advanced to $5.00. In other words, their price has increased 50 per cent, the producer's only 11 per cent. As a rule, the producer's gains are small but relatively certain. The speculator's larger but less certain.—Alfred Westfall, Colorado Agricultural College.

QUAIL DISEASE APPEARS AGAIN

The third known outbreak of quail disease has been discovered by the Bureau of Animal Industry in quail sent for examination from the National Zoological Park. These birds were received a few days ago from two of the principal importers in widely separated parts of the country. Most of the quail now on the market are imported from Mexico and are entered at the port of Brownsville, Texas. Under these circumstances all outstanding permits have been cancelled

Quail disease, a highly infectious malady, to which all our native quail are apparently subject, was discovered in 1907 and was traced to a number of States. A second outbreak occurred in 1912, but was checked through the suspension of importation of birds from Mexico from which most of the supply of birds was drawn. Last year practically no birds were imported from Mexico and no quail disease was reported. This year a limited number of birds have been permitted to enter at Brownsville subject to quarantine maintained through the co-operation of the Biological Survey and the Bureau of Animal Industry. All birds which were suspected of having the disease were examined at Brownsville or forwarded to this department, but not until January 5 were the first undoubted cases of disease detected. Game commissioners and sportsmen who are interested in the introduction of quail or who may have purchased birds for restocking this season are requested to advise the department if any of the birds are known to have died from disease of any kind. As a measure of precaution any birds now in captivity should be kept under close observation for a period of at least ten days and in case any of them die the bodies should be forwarded to the Bureau of Animal Industry of the Department of Agriculture for examination.

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5,000 Sufferers to Get Free Trial Plapao

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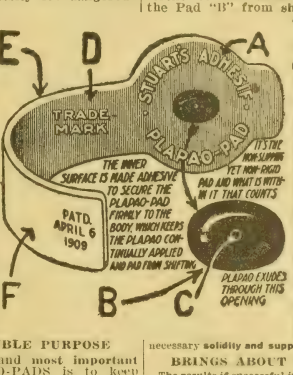
This **generous offer** is made by the inventor of a wonderful **"all-day-and-night"**-working method which is to be used to **tone up** and **strengthen** the relaxed muscles, thereafter **doing away with painful trusses altogether**, and the necessity for **dangerous** operations.

NOTHING TO PAY

To the **first** 5,000 sufferers who write—Mr. Stuart will send a sufficient quantity of the **Plapao without charge** to enable you to give it a **thorough test**. You pay **nothing** for this trial of **Plapao, now, or ever.**

STOP USING A TRUSS

Yes, **stop it,** you know by your **own experience** it is only a **makeshift,** a **false prop** against a collapsing wall, and that it is **undermining your health** because it tends to **retard the circulation** of the **blood. Why,** then, **continue** to wear it? Here is a **better way,** which you can now **prove** for yourself, **free of charge.**



USED FOR A DOUBLE PURPOSE

First: The primary and most **important** object of the PLAPAO-PADS is to keep **constantly applied** to the relaxed muscles the medication called **Plapao,** which is **contractive** in nature, and taken **together** with the ingredients in the medicated mass is intended to **increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second: Being made self-adhesive, **purposely** to **prevent** the **pad** from **shifting,** they **have** therefore proven to be an **important adjunct** in retaining rupture that **cannot** be held by a truss.

Hundreds of people, **old** and **young,** have gone before an **officer qualified to acknowledge oaths,** and **swore** that the PLAPAO-PADS **cured** their ruptures—some of them most **aggravated** cases—and of **long** standing.

CONTINUOUS NIGHT-AND-DAY ACTION

A **striking feature** of the Plapao-Pad treatment is the comparatively **short** time it takes to get **results.**

This is because the action is **continuous**—night and day, throughout the **whole** of the 24 hours.

There is **no** inconvenience, **no** discomfort, **no** pain. Yet **minute** after **minute**—whilst you are going **about your daily duties** even whilst **you are sleeping** this wonderful **remedy** is invisibly **infusing** the abdominal muscles with the **new life and strength** they **require** to perform their rightful function of **keeping the bowels** in place without the **artificial** support of a truss or device of any kind.

THE PLAPAO-PAD EXPLAINED

The **principle** upon which the **Plapao-Pad works** can be easily figured out by noting the accompanying illustration, and reading the following explanation:

The PLAPAO-PAD is **made** of a **strong flexible material** "E," which is designed to conform to the movements of the body, and be **perfectly comfortable** to wear. Its inside surface is **adhesive** (similar to, yet **quite different** from an adhesive plaster)—to **prevent** the Pad "B" from **shifting** and **getting out of place.**

"A" is the **enlarged** end of the PLAPAO-PAD, which **overlies** the atrophied and weakened muscles to keep them from **giving away further.**

"B" is the properly shaped Pad, to be applied in such a way that it **blocks up the hernial orifice,** and tends to prevent the contents of the abdomen from protruding. Within the Pad is a reservoir. In this reservoir there is placed a wonderful **absorbent-astringent** medication. As soon as this medication is warmed by the heat of the body it becomes soluble and **escapes** through the small **opening** marked "C" and is absorbed through the pores of the skin to **strengthen** the weakened muscles and effect a **closure of the openings.**

"F" is the long end of the PLAPAO-PAD which is to be plastered over the hipbone—a part of the frame-work of the body, calculated to give the necessary **solidity and support** to the PLAPAO-PAD.

BRINGS ABOUT THESE BENEFITS

The results if successful in following this treatment **(as you can now prove for yourself free of charge)** are **wonderful.**

—The ruptured parts are **sustained** and **held together.**

—The weak **muscles recover** their **elasticity** and **strength.**

—The **unsightly,** painful and dangerous protrusions **disappear.**

—That horrible **"dragging down"** sensation is banished, **never to return.**

—You **recover** the **vigor, vitality, energy,** and **strength** you have **lost.**

—You once more are able **to enjoy life without fear** of trouble.

MAKE THE TEST FREE

Make a **personal** test of its **value. Send no money,** for the Free Trial Plapao costs you **nothing,** yet it **may bring** you a **Health-Restoration** more precious than **mere fine gold. Accept this free "Trial" today** and you will be **glad** you took advantage of this opportunity as long as you live. Write a post card or fill out the coupon **today,** and by **return mail** you will receive the **free trial Plapao,** with a **presentation** copy of Mr. Stuart's 48-page book on Rupture, containing full information regarding the method which was **awarded a Diploma with Gold Medal at Rome, and a Diploma with Grand Prix at Paris,** which should be in the hands of every sufferer from this dreadful affliction. **5,000** readers can obtain this **free** treatment. The response is **certain** to be enormous. To avoid disappointment write NOW.

SEND COUPON TODAY TO

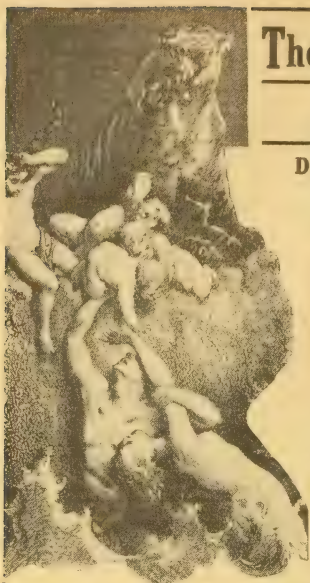
PLAPAO LABORATORIES, Inc.,
Block 732, St. Louis, Mo.

Say **Free Trial of Plapao** and **Mr. Stuart's Book on Rupture.**

Name . . . . . .

Address . . . . . .

Return mail will bring Free Trial Plapao



The Chaldean Story of the Flood

Dug Up From the Ruins of Ancient Chaldea

DO YOU KNOW that there has been dug up from the ruins of old Chaldea a complete story of the flood—the same in every detail as Moses' account in Genesis—and that it was written thousands of years before his version appeared? Hardly one in a million has ever had an opportunity of seeing this startling story—HAVE YOU? But it is one of the many thousand curiously interesting accounts in

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now for the first time available to the general public. Up to the present this remarkable Library has only been sold by subscription, but by taking over the *entire unsold edition* from the publishers we secured it at an *absolutely unheard of bargain.* Therefore we are able to offer the few remaining sets to Farm News readers at

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Send us the attached coupon AT ONCE, and we will tell you how to get the Library on EASY MONTHLY PAYMENTS, and mail you FREE a book of rare documents. Remember there are only a limited number of sets, so act quickly. Mail the coupon NOW. You assume no obligation. No salesman will call. The book is FREE.

THIS MARVELOUS WORK is revolutionizing modern thought. It's turning upside down old notions and ideas. It gives the authoritative, rock-bottom sources of our knowledge on ALL SUBJECTS OF HUMAN INTEREST from the earliest civilization down to today—the inside facts which the average person has never even heard of.

OVER 100 RESEARCH SPECIALISTS spent 10 years gathering the contents of this great work. Ancient and remote and forgotten civilizations in all parts of the globe were uncovered, and age-buried hieroglyphics on monuments, tablets, sun-baked bricks and palimpsets yielded their secrets; untiring workers ransacked the hidden literature of every age, ancient, mediaeval and modern, to find the "original documents" that shaped the civilizations and influenced the thought and life of the world. Nothing like it has ever been attempted or thought of before. You'll be amazed at the wealth of information this unique library contains.

DO YOU KNOW that the old Egyptians 5000 B. C. had a Bible? Do you know that the Assyrian literature gives the story of the creation? Do you know that books and newspapers were printed in Asia thousands of years before printing was invented by Gutenberg?—Did YOU ever read Columbus' **Personal** log of his great voyage?—Do you know that there occurred in Mediaeval England the first great Socialistic protest?—Do you know by what unique process Harvey demonstrated the circulation of the blood?—Do you know who Machiavelli was, or what world-famous treatise he wrote?

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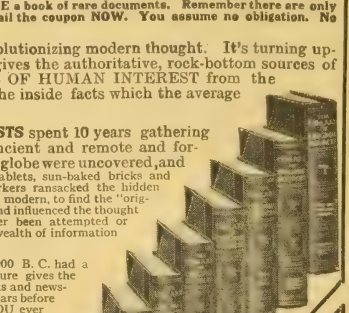
10 sumptuous, massive volumes, bound in rich, deep red leather; full page illustration, pure silk headbands, printed in large, clear type on handsome paper, gold tops—a veritable triumph of the book-maker's art.



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Send me the FREE book of rare original documents, showing curious inscriptions of the Ancients, and tell me of your easy payment offer. I assume no obligation, the book and all you send me is to be FREE, and no salesman is to call.

Name .....

Address .....

He is a wise man who keeps before him a cheerful outlook. The past may have been disappointing, but its shadow need not be spread over the future. Look to the morning and expect it to be fair.

No merchant would dream of doing business without keeping books. Why should the farmer? Farming is a highclass business when it is properly conducted. Why not be proud enough of it to run it as such?

DOCTORING OLD BESS

EVERY horse owner can profitably invest about $3.50 in the purchase of surgical instruments adequate for general farm use.

The inexperienced but cautious operator can reduce his veterinary expenses to a minimum where he is equipped with a simple set of instruments, and is not afraid to use them. A stitch in time is worth half a dozen dead horses, and the man who is Johnny-on-the-spot with his tools and his courage when his horse is injured is often able to save the life of the animal, or at least to avert serious developments.

Of paramount importance is the need for maintaining all veterinary instruments in a cleanly and sterile condition. Otherwise the attendant may accomplish more harm than good, and may even favor the development of blood-poisoning from a slight wound. It is not unusual for a horse to become "hung" in the barb-wire fence. Some other farm animal or pet may develop a bad abscess. The layman can treat these ailments. It is only in the case of serious mishaps, or of contagious diseases without the scope of the uninitiated, that it is requisite to call in the skilled veterinarian.

There should be a home-made medicine chest in every horse barn. It should contain a bottle or more of dependable linament for soreness, lameness, and blistering; zinc ointment for healing; copper sulphate for remedying hoof diseases, such as thrush; hydrogen peroxide, five per cent carbolic acid and methyl blue for antiseptic purposes; a medium-sized syringe; a roll of absorbent cotton; leg bandages; hoof oil; vaseline, epsom salts, borax and some stimulant.

My outfit of veterinary goods consists of a pair of curved scissors, a scalpel or knife, a strong pair of splinter forceps, a pair of tweezers, curved needles and silk thread, as well as a heavy probe. Such a simple set aids one in doctoring up the minor injuries to which the horse family are exposed. One may easily save the cost of the entire equipment the first or second time he uses the instruments. They are valuable first aids which no horse owner should be without.

PORK FROM ACORNS

EIGHTY-cent corn does not produce profitable eight-cent pork. In consequence farmers who reside in localities that are not famed as corn sections have had to devise rations that did not feature the use of corn as a fattening nutrient for swine.

In the South acorn-fed pork has been the direct result of high-priced corn. Many of the average Southern farms maintain a tract of woodland, which usually boasts a number of oak trees. Thinking farmers enclose a portion of their timberland with a woven-wire, plank or rail fencing. In this pasture they liberate their fattening swine.

For months at a time the hogs will rustle their living in the woods. They will greedily consume all the acorns they can find. During the period that his swine are on acorn range the farmer does not have to furnish them any supplementary feed. The porkers

forage enough nuts and green stuff to effect rapid and profitable gains in live weight. It is desirable, however, that once every week or so the farmer carry some corn to the hogs that are handled in this manner, in order that the animals will not become too wild.

It is necessary to finish acorn-fed hogs on a full diet of corn for two or three weeks before butchering or marketing the animals, in order to develop a firm flesh. Acorns fed alone produce a soft, spongy flesh and an oily lard. Corn is probably the most popular corrective to remedy the excess of olein in the fat of the carcass of the acorn-fed hog. Barley, oats and peas may also be judiciously fed to improve the quality of the resultant bacon and pork.

The principal advantage of the acorn diet is that its use minimizes labor in caring for the swine, and lessens the cost of producing pork. The objections to this method of hog management arise from the fact that often the woods are isolated from the other farmstead buildings to such an extent that some of the swine may be stolen. Disease may also break out in the herd, unless some one daily examines the animals. The healthy, outdoor life of the animals which are rustling acorns reduces their susceptibility to disease to a minimum.

A CHEAP PAINT

The following would be a cheap paint it seems to me, where the cactus grows or where it can be secured economically. A recent consular report states that a traveler in the rural districts of Uruguay was struck by the fine white color of the farm buildings in wet weather, when usually white paint shows up dark and ugly.

This neat color was secured by the use of a certain kind of paint made from the sliced leaves of the common cactus. This is soaked for twenty-four hours, after which it shows up a liquid of creamy consistency. Into this is stirred some lime which, after a thorough mixing, can be applied to wood, brick or iron, producing a milk-white appearance which will endure through storm and frost for years.—I. M. S.

KEEP THE SPRAYER BUSY

By J. W. Black, New York.

A good sprayer can be made useful in other ways about the farm besides the purpose for which it is intended. Did you ever try spraying the chicken house with insectides, or whitewash, properly strained and thinned?

I have found another use for the sprayer that has added greatly to the practical value of the outfit. Wall paper needs to be replaced from time to time, and it is unsanitary to place a new paper over an old one. A sprayer is a fine help in removing the old paper. Fill the tank half-full of hot water, then create enough air pressure to produce a fine misty spray. Apply this to the paper in two applications, the first one just enough to dampen the paper. If the water is applied freely at first it will run down too quickly from the surface of the dry paper. But if it is first dampened the second application will be quickly absorbed. The paper will then peel off easily.

Earn This 47 Piece Dinner Set

No Money Required—Just the Coupon

THIS BIG 7-BAR BOX IS 75c VALUE—YOU SELL IT FOR ONLY 50c.

Think of getting this splendid Decorated Dinner Set of 47 pieces for selling only 25 boxes of our Fine Quality Assorted Toilet Soaps. In a few hours at most, you can take orders for the entire amount and the Dinner Set is a fine reward for your effort. Don't send us any money—just fill in the coupon below, giving the names of two reliable business men, and if satisfactory we will ship the Dinner Set and 25 boxes of the Soap for you to sell at 50c per box. When sold you send us the $12.50.

Our Soap Sells Fast

Everybody knows Crofts & Reed Soaps is high quality the moment they see it. Thousands in every state have known us for 26 years. It will surprise you to see how quickly you can earn this beautiful Dinner Set. We take all the risk—let you have 30 days credit. If not satisfactory send back all at our expense. Fill in coupon and be first in your locality to get this fine 47-piece set.

(222) **CROFTS & REED CO. Dept. B 68 Chicago**

Description of 47-Piece Dinner Set No. 160132

This beautiful Dinner Set is old rose pattern, with effective green and blue foliage and edged with gold line. This is a very desirable set, consisting of 6 9-inch dinner plates, 6 7 1-2-inch soup plates, 6 7 1-2-inch pie or bread plates, 6 cups and 6 saucers, 6 5-inch sauce dishes, 6 individual butters, 1 deep 7 1-2-inch open vegetable or salad dish, 1 8-inch open baker 1 11-inch platter, and 1 Colonial shaped creamer and 1 4-inch open sugar bowl.

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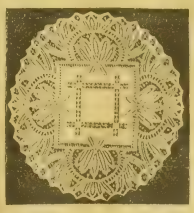

Nottingham Table Cover and This Floral Novelty

GIVEN FREE To All READERS

We want to send these two splendid gifts to every reader of this magazine. This handsome table cover is made in the latest style, of elegant material, all ready to spread on your table. It is a very beautiful design as shown in the illustration, and is sure to please any woman. It measures 72 inches in circumference. The plant we give you is the rare and sacred Resurrection Plant and will stay green by placing them in water. When taken out of water they dry and curl up and go to sleep. They will keep in this state for years. Simply place the whole plant into water; it will open up and start to grow in 20 minutes. We will send the Nottingham Table Cover and the Sacred Plant free and postpaid to anyone sending us 35c to pay for a subscription to our fine big home magazine. Only one offer to a family on this liberal introductory plan. Send 35c today.

FAMILY CO., Dept. F M, Springfield, Ohio.

32 Pieces 32 Pieces

Gold Edged Dinner Set

For a Few Hours Easy Work

OUR 18th SUCCESSFUL YEAR

Pure white, high grade china. One of the richest looking, most stylish Dinner Sets on the market. Guaranteed not to crace. Will add beauty to any table. Merely give away FREE 12 beautiful Art Pictures 16x20 in. Gold for $1.00 each in many shades with 12 cans of White Cloverine Salve, which you sell at 25c each. Send us the $3.00 collected and the set is yours. A doctor discovered "Cloverine." Millions using it for Cuts, Eczema, Catarrh, Colds, Piles, etc. You can also earn Watches, fine Jewelry, Bed Spreads, Blankets, Musical Instruments, Silverware. Large premium catalog. Be first in your town. Everybody buys 2 to 3 boxes when you show pictures. Address at once.

Wilson Chemical Co., Dept. 237 Tyrone, Pa.

Roofing

Prices S-M-A-S-H-E-D!

Don't buy Roofing, Siding or Ceiling until you get Harris Brothers' Big "Price Wrecking" complete Roofing Catalog. Amazing values: **$1.19** buys 100 sq. ft. Corrugated Iron roofing; **Order lot No. G-14, 47c** buys half ply Rubber-surfaced, including nails and cement. **Order lot No. G-15.** Above prices are f. o. b. Chicago—not freight prepaid. Carefully estimated—

Freight Prepaid Prices

positively save you ⅓ to ½. Write today for our Freight Paid Prices on Roofing, Siding and Ceiling. Tremendous factory facilities and $10,000,000 spot cash buying power enable us to undersell every other Roofing Manufacturer, Dealer or Mail Order House. Send for our Roofing Book and see how we S-L-A-U-G-H-T-E-R PRICES! Remember, we own and operate the old, reliable **Chicago House Wrecking Co.,** for 22 years America's greatest value givers.

Samples FREE!

We will gladly send you— FREE on request—complete set of samples covering every kind of roofing made. Write today!

HARRIS BROS. CO., 35th and Iron Sts. Dept. G-66 Chicago

Wise Women of the Past and Present

By Marie Mercerat

THE so-called New Woman, who does things outside of the four walls of her house for money, is not so new after all. If you doubt this statement take the Bible and turn to Proverbs 31:16, and you will read regarding the model woman of those times: "She considereth a field and buyeth it; with the fruit of her hand she planteth the vineyard." Note the word "considereth," which plainly shows that she knew what she was about, did not buy the field in a hurry, did not consult her husband or ask him for the money, but relied entirely upon her knowledge and wisdom and resources.

Further on, Prov. 31:24, we find that "she maketh fine linen and selleth it; and delivereth girdles unto the merchant." This plainly testifies that when not busy in her vineyard she had another money-moking enterprise. We are also informed that "Her children arise up and call her blessed; her husband also, and he praiseth her." Surely he praised her, but did he help her? We have no reason to think so, for the Good Book says so.

Nowadays, while fair suffragists seek the ballot, most earnest women only ask the privilege to earn a living while forced by circumstances to stay at home. Two energetic women I know are like the woman in Proverbs, inasmuch as they "considereth" their circumstances, and also made a success of their ventures.

One of these enterprising women lives in the suburbs of a big western city, and, as her mother is a semi-invalid, has to stay at home to care for her. They have a garden sixty by sixty feet, and in it the daughter raises vegetables and strawberries; with the occasional help of a man to do the plowing and other heavy work, and her mother when she is strong enough. All the surplus vegetables raised, and many that are bought, are canned in the most painstaking manner, and it is rare for one can to spoil out of several hundred. The tomaties are canned whole, and so carefully that they look as though they were preserved in alcohol. Hundreds of cans of spinach are put up, the New Zealand variety; also Lima beans and snap beans, both the dwarf and climber.

Our friend boils the tomato in water with salt until tender just as though they were to be dressed and served at once, but care is taken not to boil them too hard or to break them. The jars are carefully filled to the top, then wiped dry, and the scalded rubbers and tops, perfectly dry, are put on and screwed down as tight as possible. Several times while the jars are cooling the tops are screwed down. This is most important, and must not be neglected. When the cans and their contents are perfectly cold the tops are dipped in melted parrafin, and then put in a dry cellar in the dark.

During the winter these cans are sold to city housekeepers, who appreciate vegetables canned in glass, and are willing to pay a fair price.

The strawberries were gathered when free from moisture, dew or rain, hulled

Peach and Apple Trees 2c and Up

Plum, Pear, Cherry, Strawberry, etc. Catalog Free. **Tenn. Nursery Co., Box 31, Cleveland, Tenn.**

ROSES Guaranteed to **grow and bloom.** Highest quality. Low prices. Send 10c for "1915 Rose Guide" with 19 roses in color and colored directions. Free: **The CONARD & Jones Co. Box B West Grove, Pa.**

HILL'S EVERGREENS GROW

Best for windbreaks, hedges, screens. Free Catalog. **D. HILL NURSERY CO., Inc., 2861 Cedar St., DUNDEE, ILL.**

32 NICE POST CARDS different sorts and a Good Magazine for one year. The WHOLE THING for only ten cents. ROBERTS & CO., 326 MADISON ST. CHICAGO

EXPERIENCED Farmer wishes work on farm for family and self. All have had Dairy Farm experience also. Three large sons will go with parents. Write FRANK AGNEW, 2511 NORTH LAWNDALE AVENUE, CHICAGO, ILLINOIS

LOTS OF MAIL If you want to get lots of mail from different forms—Send us your name and address—and we will put your name in our Directory. And we will also send you at once, 12 sample Cards, 4 Sm. Pictures, and a large assortment of curious and wonderful reading matter. Write today, send 10 cents, coin or stamps for postage, and you will get lots of mail—and the big sort of presents besides. Williams & Co. 226 Madison St., Chicago.

Silk Remnants for patching Crazy Quilts, Sofa Cushions, Bedspreads. Large pieces, all colors. Big Bargains in Pound Boxes. Send 10 cents for large package and 140 Quilt Designs. 3 for 25c. 1 lb. $1. **Star Silk Co. 1103 Monroe, Chicago.**

SONGS Buy a Bale of Cotton—This Is the Life—When I Lost You—Good Night Nurse—You Made Me Love You—Sunny Brook Farm—There's a Girl in the Heart of Maryland—International Rag—When I Dream I Met That Girl—Somewhere—Sailing Down Chesapeake Bay—Down in Dear Old New Orleans—Georgia Land—Apple Blossom Time in Normandy—I'm On My Way to Mandalay—You've Got Your Mother's Big Blue Eyes, & over 200 other Popular Songs and Music (the very latest hits, sung everywhere) & 200 Comic Recitations, Toasts, etc. Only 10 cts., 5 Song Books 25c. **HOME MUSIC CO., 29 Clinton St., CHICAGO.**

NEW INVENTION

BRAND NEW SELF-HEATING IRON

Makes and Contains its own Heat. Saves its cost every month. Saves miles of walking. Economical, safe, convenient. Used anywhere. Clothes ironed better in half the time. No waiting, stopping to change irons. Right size, right shape, right weight. Neat, durable. No tanks, fittings, hose nor wires standing out at sides or back to bother. Cheap as the 1 cent ordinary ironing. Price low.

Sent anywhere. Not sold in stores.

AGENTS Make Money quick, sure, easy. All year business. Sells itself. Experience unnecessary. Every home a prospect. All can afford it. Even two or three sales a day gives $27 to $40 week profit. Easy sell six to a dozen a day. Send no money. Write today for description, selling plan how to get **FREE SAMPLE. C. BROWN MFG. CO. 4422 Brown Bldg. CINCINNATI, O.**

NOW, THESE PRICES IN EFFECT!

2 H.P. $34.95 4 H.P. $69.75
6 H.P. $97.75 8 H.P. $139.65
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Other Sizes Proportionally Low.

This 21-year old WITTE Engine has never failed its owners, McBeth & Dallas, Garden City, Kansas

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Kerosene, Gasoline & Gas

CASH OR EASY TERMS

Sold Only Direct from Factory to User. No matter where you live or what work you have that can be hitched to a belt, you can own a WITTE to better advantage than any other engine. Sizes are 2, 4, 6, 8, 12, 16 and 22 Horse-Power. Styles, **Stationary, Portable, Skidded and Saw-rigs.** Over 27 years in the lead in engine-quality. Better now than ever, with prices that can't be beat.

No need now to do without a good engine, or to take chance on a poor or unknown one, to get a low price. The WITTE fills the bill.

My Free Book I furnish highest standard engines for prices less than asked for rattle-traps. My Free Book explains the inside of engine selling as well as manufacturing. Write today for my Sales Plan with Easy Terms.

Ed. H. Witte, Witte Iron Works Co., 2028 Oakland Av., Kansas City, Mo.

5-Year Guaranty On Efficiency and Durability

LET me send you a WITTE ENGINE to earn its cost while you pay for it. It's cheaper than doing without one. Ed. H. Witte.

and weighed, then granulated sugar, equal weight, added, and the whole reduced to a pulp with a potato masher. Then the mass is stirred and beaten until the sugar is melted and the berries thoroughly crushed. The berries were carefully grown on a bed of clean straw, and needed no washing, which would have destroyed, in a great measure, their fine aroma and freshness. This pulp is carefully packed cold in glass jars, pint and quart sizes, and it keeps perfectly. There was, as you see, no heating or cooking of the berries, and when they were eaten months afterward they had the inimitable aroma, taste and flavor of fresh berries.

My other money-making friend lives in the Ozarks, in Missouri. She has a knack of writing clearly and intelligently of the things of the farm, and after contributing to various farm papers gratuitously for two or three years, awoke to the fact that what was worth printing was worth paying for; therefore, she wrote to the editors who had used her copy offering them a certain amount of copy if they would give her a certain amount of advertising space. Five of the editors accepted her offer at once, and two others after a little "Jewing," while three refused outright.

The advertisement she inserted was that she was able to furnish by mail or express the national flower, Goldenrod, singly, by the dozen or by the hundred. This plant grew in the greatest abundance in her neighborhood, and could be had by anyone who desired it.

The first spring her sales were far beyond her expectations, and she found that while the goldenrod was plentiful, the supply would soon be exhausted, and besides it was not convenient to fill orders for the wild plants, or rather the plants growing wild. Therefore, when fall came she transplanted large clumps of it, which she separated and planted in rows three feet apart, and fifteen inches apart in the rows. All spring and summer it was kept clear of weeds with the use of the hoe and cultivator, and was right at hand to fill orders. During winter she prepares her copy, as she is a busy housewife, and during summer has no time for writing. The Goldenrod business is a little side issue.

She has learned to pack the plants for transportation like a professional, and guarantees them arriving at destination in good condition. She fills all orders received three times a week, and keeps her advertisement running during February, March, April and May, as well as September, October and November. She is businesslike in her dealings, answering all inquiries promptly, doing exactly as she may have promised, and is making a nice income from her venture.

City people are always ready to buy wild flowers, and certainly our woods and fields yield a grand display of them. There are so many beautiful wild flowers, especially in the Ozarks, that would find a ready market if offered for sale, and our women friends may be able to glean some inspiration by learning how one woman made money selling goldenrods.

It may be a little disagreeable putting up ice along about now, but one forgets all about the unpleasantness over a dish of ice cream along in July.

The Telephone Unites the Nation

AT this time, our country looms large on the world horizon as an example of the popular faith in the underlying principles of the republic.

We are truly one people in all that the forefathers, in their most exalted moments, meant by that phrase.

In making us a homogeneous people, the railroad, the telegraph and the telephone have been important factors. They have facilitated communication and intervisiting, bringing us closer together, giving us a better understanding and promoting more intimate relations.

The telephone has played its part as the situation has required. That it should have been planned for its present usefulness is as wonderful as that the vision of the forefathers should have beheld the nation as it is today.

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Setting the Hen

By W. F. Purdue

I never set a hen at the first signs of broodiness, as I have found it a wise precaution to test her first on nest eggs for several days before placing her on eggs that are to be incubated. Early in the season, eggs are too valuable to intrust to a hen unless one can be sure that the biddy means business.

I always give eggs according to the size of the sitter. A hen should never be given more eggs than her body will come in contact with, hence the smaller the hen the fewer eggs she should have. When too many eggs are put under a hen in cold weather, the frequent changing of their positions will cause the whole lot to be alternately chilled. Under these circumstances, the number of chicks hatched will be larger from a small number of eggs which the hen can cover properly than from a large setting. If the weather is moderate, the nest in a warm place, and the hen is a good gentle biddy, more eggs can be given her as a matter of course than when the reverse is the case.

As it is but little more work to manage a number of sitters at the same time than it is to care for one lone hen, I set several hens at one time whenever this is possible. Real early this is often impossible, but as soon as warm weather arrives a number of hens will become broody at one time. At hatching time the chicks from at least two hens can be given to one mother. This plan of setting several hens at once also enables one to double up the eggs after the infertiles have been tested out; some of the hens can then be reset and thus made to cover a full setting.

I never permit my setting hens to be disturbed by other hens trying to get into their nests. If necessary, I cover the sitters up. A special room to which sitters can be moved is highly desirable. Broody hens can be moved to new locations whenever this is necessary. Of course the moving to the new nest must be effected after dark. Put some nest eggs in the new nest at first until you see that the hen is not going to object to her new location, when the hen may be put at her real work.

During the first week the sitter's absence from her nest should be brief, not more than fifteen minutes at the most, and less if the nest is in a cold location, as the embryo chicks in their early stages are easily chilled. Later they generate considerable heat of their own and the hen may then be allowed to remain off her nest twenty minutes or more.

I let the sitters come off for food and water every morning at the same time. Should they not take the initiative at first, I lift those hens from their nests. After a few days all will learn to come off when one appears and they will return to their nests all right. The hens should be compelled to get off the nests for food and exercise at least once each day. Some people leave their sitter covered up for several days at a time, which is very weakening to the hens.

A grain ration composed principally of corn is best for the sitters, as corn is a fat and heat-producing food. Soft food and green food for the sitters are not desirable for the reason that they are apt to relax the bowels, and this will probably result in the nests becom-

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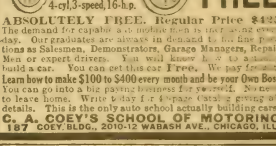

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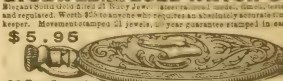

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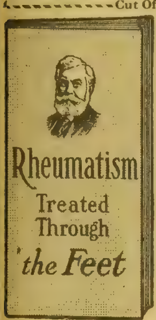

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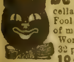

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ing soiled badly. Suitable grit and an abundance of drinking water should be provided for the sitters.

Should any of the eggs become broken at any time, or should a nest become badly soiled in any other way, remove all soiled straw from the nest and wash the eggs in warm water. If the eggs are allowed to remain coated the pores of the shells will be closed, thus shutting off air from the chicks inside. Wipe and handle the eggs gently while cleaning them.

Twenty-four hours before the eggs are due to hatch I remove the hen from her nest and give her a good feed of hard grain. She is not removed again until the hatch is completed; while the eggs are hatching I disturb the hen as little as possible. If the hen is very gentle I usually remove the empty shells from the nest at intervals by slipping my hand under the hen. The shells are in the way, as they sometimes get slipped onto the unhatched eggs, thereby imprisoning the occupants. But I prefer to leave the shells in the nest when I have to remove the hen in order to get at them.

The practice of sprinkling eggs just before they are due to hatch cannot be recommended; in most cases this does more harm than good. At least it has always proved so for me. Some people claim that if they don't sprinkle the eggs they don't obtain good hatches.

Early in the season, before warm, sultry weather, a hen may be set twice in succession provided her nest is entirely free from vermin and she is given good feed and care. In warm weather six weeks is too long a period for a hen to set at one time.

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Marketing Poultry Products

By W. F. Purdue, Indiana

A LARGE part of the profits in poultry keeping depends on the method of marketing the products. The poultryman must be a good salesman as well as a good poultry raiser. He must have a good market to begin with, or know how to make one. High-priced trade is not found ready made, nor can it be made to order. Each poultryman must make it himself, and must cater to it. It requires time, ingenuity, tact and high-grade products, that some one wants and for which he is willing to pay a good price. It is a demand that most people will not take the trouble to supply.

Such a trade is well worth working for. Solicit the trade of the well-to-do consumer. The highest prices can be obtained, and the largest profits are made in supplying a retail trade. This is one of the most satisfactory trades to cater to, and is easy to get. There are hundreds of families in every town that are looking for the person who will furnish eggs that are clean, uniform in color and shape, also strictly fresh, regularly each week. These customers are willing to pay four and five cents or more, per dozen, above the retail store price.

Poultrymen who can reach the rich guests at summer resorts, and those who live in communities where summer boarders are taken on the farms, have a good opportunity to secure customers for eggs. Frequently, a large hotel, restaurant, sanatorium, hospital, and occasionally large retail dealers, will pay nearly or quite as much as private families. This wholesale trade, however, is harder to secure, but easier to serve.

The largest profits must always come from superior marketing, and from special market advantages in selling eggs and stock. A little extra care and skill in preparing poultry for market will often make a large increase in the selling price. A casual glance at the dressed poultry offered for sale in most markets, will reveal the fact that much of it, which is of inferior grade, might have sold for top prices if it had been properly fitted for market. People judge poultry by its appearance.

There is a wide opportunity which poultrymen have of supplying, not only fresh eggs, but also fresh poultry throughout the year to private customers. This demand for properly fat tended, well-dressed poultry is large,

LOAF GRAHAM BREAD

Two pints of Graham flour, three level tablespoonfuls of sugar, one of salt, two eggs, one and one-half cupfuls of sweet milk, the same amount of clabber, one teaspoonful of soda. This sort of Graham bread is either the best or worst bread in the world, for it is hard indeed to get the milk and flour in proper proportion. If too much milk is used, the bread is soggy and heavy.

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Bishopric Wall Board *lessens* building cost and does away entirely with all plaster troubles and delays. Presents a hard, enduring, spirit-level surface—well called "the wall beautiful." Proof against damp, heat, cold or vermin. Nail it to studding—just as it comes—the farmer's greatest aid to *good* building.

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costs much less than plaster walls and does not (like plaster) absorb moisture, crack, crumble, let *out* heat and let *in* cold. Bishopric Wall Board *stays put* and needs no skilled labor to put on. Investigate NOW.

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MAGNIFICENTLY DECORATED FULL-SIZE DINNER SET FREE

WE PREPAY FREIGHT On Premiums, Baking Powder, etc.

To gain a wider distribution for our *strictly pure*, high-grade groceries and family supplies, we now offer ABSOLUTELY FREE this handsome, full size, artistically embossed and magnificently

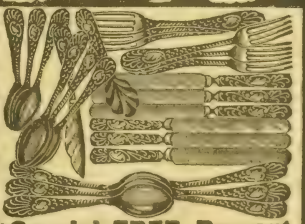
FLORAL DECORATED 112-PIECE DINNER SET

to every lady who distributes only a few pounds of Belle Baking Powder. With each pound Baking Powder, you may give Six Full Size Crystal White Glass Goblets, as per plan 663 (the goblets alone are worth as much as the price of the entire plan). Our Plans sell at sight. Many other Tea, Coffee and Grocery offers equally as cheap in price. If preferred, you can have choice of hundreds of other useful premiums, such as Furniture, Wearing Apparel, Linen Sets, Graniteware, Lamps, Rugs, Clocks, in fact anything you need, or we WILL PAY YOU A LARGE CASH COMMISSION. Best of all,

NO MONEY IS NEEDED. WE PREPAY FREIGHT

on everything to your nearest Railroad Station, allowing plenty of time to examine, deliver and collect before paying us. Write at once for our FREE SAMPLE OUTFIT and other things. If after receiving them, you decide not to get up an order, you may keep everything we send you FREE of charge for the trouble in answering this advertisement. WE ALSO GIVE ELEGANT PRESENTS FOR APPOINTING ONE OR MORE AGENTS TO WORK FOR US. NO LICENSE NEEDED. You advance no money. You have nothing to risk. Remember, the Special Premium and Sample Outfit are both absolutely free. WRITE TODAY.

The Greatest Offer Ever Made.



Special FREE Present

We give a 26-Pc. Silverine Knife, Fork and Spoon Set, or 7-Pc. High-Grade Granite Kitchen Set, or Elegant 10-Pc. Decorated Toilet Set, FREE of all cost or work of any kind. Simply send us your name & address and ask for this FREE PRESENT

THE PURE FOOD CO. 762 W. PEARL ST. CINCINNATI, OHIO.

GIVEN TO YOU FREE

Just send your name and address. We trust you. Then we'll send you 24 papers needles and 12 thimbles. Sell 2 papers for 10c, giving thimble free. Then send us $1.20 and take your choice of many premiums in our list. Write today. Name and address.
KEYSTONE NOVELTY CO. Box 209 Greenville, Pa.

FOOT BALL BRACELET CAMERA FOUNTAIN PEN PICTURE FRAMING

Big Valentine Package 10c

25 Valentine, Love and Post Cards, 30 Good Luck Hearts, 30 Greeting Mottoes, 30 Lover's Seals, 30 Pennant Mottoes, 30 Love Mottoes, 75 Gummed Greeting Seals, 72 Love Verses and Toasts (material for 50 Valentines), all in bright colors, hearts, cupids, pretty girls, doves, bows and arrows, etc. Biggest and prettiest collection of Valentine Cards and Favors you ever saw. ALL post paid 10 Cents—3 lots 25c. Address
STAR CARD CO.
29 Clinton St., CHICAGO

VIOLIN MANDOLIN GUITAR or CORNET FREE FINE TONE

To introduce our wonderful new system of teaching music by mail, Violin, Guitar, Mandolin, Piano, Organ or Brass Band, will give you a dandy instrument absolutely FREE and guarantee to make you a player or no charge. Complete outfit FREE. Special offer to first pupil. Write at once. SLINGERLAND'S CORRESPONDENCE SCHOOL OF MUSIC, Dept. 41, Chicago, Ill.

$5. Prize Package 10c

This big Game and Fun Package will amuse the whole family all winter. 100 Great Games, Checkers, Chess, Dominos, Fox and Geese, 9 Men Morris, Authors, Star Puzzle, Chinese Puzzle, 13 Puzzle, 85 Prize Puzzle, Roman Cross Puzzle, 7 Wonders of World, Marriage Looking Glass, Husband and Wife's Commandments, 22 Popular Songs, 10 Comic Cards, 48 Magic Tricks, 70 Puzzles, 300 Jokes and Riddles, 12 Love Letters, 175 Ways to Flirt, How to Tell Fortunes, How to Make Others Obey You, &c. ALL the above and 500 other things to amuse, 10 CENTS, postpaid. Address STAR CO., 39 Clinton St., CHICAGO.

FREE WATCH, RING AND CHAIN

Our fully guaranteed watch is highly engraved, stem-wind, stem-set, simulated gold finished; desirable size, late thin model fancy bezel, new design; given free to anyone for selling 20 jewelry articles at 10c ea. Order jewelry now; when sold send $2.00 and we'll send you watch, exquisite three-stone RING and fine Ladies' or Gents' Chain FREE.
DALE WATCH CO., DEPT. 67 , CHICAGO

FREE

POWERFUL ACCURATE AIR RIFLE

Steel barrel, walnut stock, peep sight. FREE for selling 12 exquisite Hexagon Drawnwork Handkerchiefs at 10c. each. No money required.
R. W. ELDRIDGE, 15 ELDRIDGE BLDG. ORLEANS, VT.

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FREE

Just distribute 6 boxes MENTHO-NOVA Salve (Great Healer) at 25c a box. Write for goods. We trust you. Return as $1.50 and high-powered rifle and handsome initial ring are yours or choice of other presents.
U. S. SUPPLY COMPANY, Dept. 750 Greenville, Pa.

FREE Fine Camera and complete outfit for selling 20 Large Colored Art & Religious Pictures or 20 pkgs. Beautiful Post Cards at 10 cents each. Satisfaction guaranteed or money returned. Order your choice today.
GATES MFG. CO., Dept. 303, CHICAGO

Cash-Prize Winners in Farm News Boy's Work Contest

GETS START WITH CORN-GROWING

First Prize ($1.00) Contribution

By Thomas G. Trumbo, Virginia.

Last summer I worked twenty acres of corn by myself after it was planted. One acre of this was my own. I plowed it six times, and raised 60 bushels of corn on this acre, getting the third prize ($10.00) from the Boys' Corn Club. With this money I bought ten hens from my mother for $3.00, and got 70 dozen eggs from these hens, giving me a return of $17.00 from the hens. The cost of keeping the hens was $6.60. I have since bought a pair of Belgian hares, and am going to try raising them.

SELLING HOT BED PLANTS

Second Prize (75 Cents) Contribution

By Lloyd M. Howell, Ohio.

In nearly every community there is a chance for a boy to make some extra money by selling surplus sweet-potato plants.

My hot bed last year was 3 by 6 feet, and 18 inches deep. I filled it 14 inches deep with fresh horse manure, tramped it down well, and covered it with rotten sawdust. Sand will do as well. I covered the hotbed with boards to keep the rain off it, and let it cool off for a day or two. I then removed some of the sawdust and put in a bushel of sweet potatoes, and covered them with one and one-half inches of sawdust.

After they begin to sprout keep them well watered, and cover just enough to keep of the frost. The bed should be made between April 10 and 15. The plants may be sold at from 15 to 25 cents a hundred, according to the cost of the seed potatoes. Last year I sold 5,000 plants from my bed at 20 cents a hundred, after all we wanted for home use had been taken. My income from this source was $10. The seed cost me $2.00, leaving me a profit of $8.

NO END TO OPPORTUNITIES

By D. C. Ray, Kentucky.

It seems to me that the opportunities for the boy in the country during the winter season has no end. Last winter I ran a trap line over three farms, including our own, and besides having the finest kind of sport, I averaged about 50 cents a day.

This winter I am working up a trade among our neighbors for the sale of some standard toilet articles for a Chicago firm. They will furnish a handsome sample case, and I am sure that any boy who will put a little energy in the work can do well and build up a paying trade.

One boy I know makes a specialty of supplying the grocer of a nearby small town with fresh popcorn. He raises the popcorn, pops it, wraps it in fancy packages and sells it as fast as he can prepare it. Another boy has a big sled, and when sleighing is good takes the town people out for a sleigh ride, charging them 25 cents a piece for it. As the sled has a capacity for twelve people he makes $3.00 a load, and sometimes has two parties a day.

Another neighbor boy has a typewriter which he learned to use during spare moments, and now during the winter evenings he does typewriting for the neighbors and makes pretty fair wages. Another boy friend of mine raises ferrets. Another boy gathers medicinal herbs and roots in the fall and sells them to both town and country people. The real red-blooded farm boy does not need to oversleep for lack of something to do during the winter.

GROWS MUSHROOMS

By Johnnie Bauscher, Illinois.

I think it would be a good stunt to grow mushrooms in the cellar or barn during the winter months. It would be a profitable business from what I can learn of others who have done so. I have already started my winter bed in the cellar, and think it is doing first rate, and will begin bearing in about three weeks. I have a large bed about 10 x 12 x 5 feet, and think, if the crop is good it will be worth from $50.00 to $75.00, because you can get from 50 to 75 cents a pound for them. When the mushrooms are ready I am going to send them to market in little boxes by parcel post, and think by this method I can realize about $60.00 profit. I have decided to do some other things for a profitable winter.

MY EXPERIENCE WITH INDIAN RUNNERS

By Earle Williams, Ohio.

I began making preparations the preceding spring by investing $1.00 for two settings of Indian Runner duck eggs. From these I hatched 22 ducks and raised 16. I sold three of the drakes to a neighbor for $1.20.

When the ducks first began to lay I sold the eggs for 25 cents per dozen. Later I sold them to a hatchery at 35 cents per dozen. When I learned that I could get 35 cents per dozen for the eggs I saw that there was a good deal in the business, so I went to a man who

FREE GRAND EASTER SURPRISE-PACKET

6	9	22	5					
20	8	15	21	10	1	14	4	
4	15	12	12	1	18			
16	18	9	26	5	19			

WIN A PRIZE

Each one of these four lines of figures spells a word. This most interesting puzzle can be solved with a little study as follows: There are twenty-six letters in the alphabet and we have used figures in spelling the four words instead of letters. Letter A is number 1, B number 2, C number 3, etc., throughout the alphabet. IF YOU CAN SPELL OUT THESE FOUR WORDS WE WILL SEND YOU A SURPRISE PACKET CONTAINING FIVE BEAUTIFUL GOLD EMBOSSED EASTER POST CARDS, ALSO A CERTIFICATE OF ENTRY in our GRAND $5,000.00 PRIZE CONTEST. USE YOUR BRAINS. Try and make out the four words. ACT QUICKLY. Write the four words on a slip of paper, mail it immediately with your name and address, and you will promptly receive as your reward this SURPRISE PACKET, which is a handsome assortment of five beautifully colored Gold Embossed Easter post-cards, together with a copy of a New York Magazine, also a CERTIFICATE OF ENTRY in our GRAND $5,000.00 PRIZE CONTEST which closes May 1st, 1915. Act promptly. This is your opportunity to enter this great contest in which we give away THREE AUTOMOBILES, PIANO, PHONOGRAPH, GOLD WATCHES, CASH PRIZES, etc. In case of a tie between two or more persons for any Prize, a Prize identical in character and value will be given each person so tied. TRY AND WIN.
E. E. WEST, Mgr., 649 West 43d St., Dept. 226 New York

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1915 Model

A sample 1915 model "Ranger" bicycle, on approval and 30 DAYS TRIAL.

Write at once for large illustrated catalog showing *complete line* of bicycles, tires and supplies, and particulars of *most marvelous offer* ever made on a bicycle. You will be astonished at our *low prices* and *remarkable terms.*

RIDER AGENTS Wanted—Boys, make money taking orders for Bicycles, *Tires* and Sundries from our big catalog. **Do Business** *direct* with the leading bicycle house in America. **Do not buy** until you *know* what we can do for you. WRITE TO US.

MEAD CYCLE CO., DEPT. N28 CHICAGO

WIN A PRIZE

14	5	23		
9	4	5	1	19

Can You Solve this Puzzle?

Each of these lines represents a word. We have used figures instead of letters in spelling these words. There are 26 letters in the alphabet. Lettter A is 1, B is 2, C is 3, etc. Now see if you can make out the words and win this prize. Write the words on a slip of paper and send to us with 4c in stamps to cover postage. Say you will explain our offer and show our mdse. to your friends and we will send **12 USEFUL NOVELTIES** and our Big Prize Offer. Don't miss this.

THE NEW IDEAS CO., 26 New Ideas Bldg., Phila., Pa.

Boys—Which Do YOU Want?

We Give You either a Genuine Hamilton Hunting Rifle or a 350-Shot All Steel Sterling Air Rifle—both sure death to game—**FREE** for selling our New Gold Eye Needles at 5c paper so easy to sell because you give a Silver Aluminum Thimble with each 2 packages.

Send No Money—We Trust You

Just order 25 papers of Needles and 12 Thimbles. We mail postpaid at once. Sell—and return our $1.25—choosing Premium entitled to (according to number of papers sold) from Big 200 Premium list. Just for promptness we give an extra handsome prize, so write today

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FOR THE COST OF MAILING, FIVE CENTS. An illustrated book of 176 Pages, as different from any Guide you ever saw, as an Automobile is from a Stage-coach. $100 would not buy it, if you could not get another copy. Send for it today. **Send for Price List! It is Free.** The Old Square Deal Fur House, **Weil Bros. & Co. Box C-3, Ft.Wayne,Ind**

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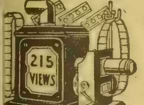

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WE TRUST YOU

When sold return us $1.20 and receive premium entitled to select from our premium book.

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FREE WATCH RING and CHAIN

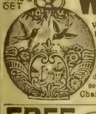
We positively give free a beautiful, gold-finished, engraved American made, stem wind, stem set watch, proper size, guaranteed five years. Also a beautiful ring set with three diamond cut brilliants for selling 20 jewelry articles at 10c each. Order jewelry today. When sold send $2, we will send watch, ring, chain

ARDEN WATCH CO. De 32, Chicago

STEM WIND & SET

WATCH RING and CHAIN FREE

SELLING NEEDLE BOOKS



We positively give FREE a STEM WIND, STEM SET, RICHLY ENGRAVED WATCH, equal in appearance to Solid Gold Watch. Guaranteed 5 yrs. & Beautiful Im. Diamond Ring for selling only 20 Needle Books at 10c. Each book contains 3 packs needles and 8 darning needles. Order 20 books, when sold send us $2, we will send you Watch, Chain & Ring. **Willard Watch Co.** Dep 239 Chicago

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Violin Outfit for selling 20 pictures or 20 pkgs. post cards at 10c. Order your choice. **GATES MFG. CO. Dept. 709 Chicago**

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919 CARDS New Styles Gold Bevel Edge Hidden Name, Silk Fringe Envelope and Post Cards; 100 Rich and Racy Jokes, 1 Pack Fun, 1 Escort and Love Cards; Star Beau Catcher, Big Sample Book Cards, etc., all Two cents. **UNION CARD CO., B 44 Columbus, Ohio.**

buys poultry in this locality, and asked him if he knew where I could buy some ducks. As he happened to have some which he had bought the day before he was glad to sell them to me at a slight profit. I bought eleven ducks of him at an average of 50 cents each.

My flock laid thirteen dozen eggs during the winter and spring. Twenty dozen of these I sold at 25 cents per dozen, the balance at 35 cents. Counting out the cost of the eggs and the eleven ducks, the total comes to $27.05. Adding to this the $1.20 for the three drakes the whole profit is $28.25.

RAISES BELGIAN HARES

By L. A. Morris, Indiana.

My cousin lives near a small town and raises Belgian hares which he sells for from 15 cents to 30 cents each when dressed. He sells them to residents of the town and the butcher buys quite a few from him and resells them to his customers. He raises the rabbits in the back yard in small pens, and feeds them plenty of rolled barley and alfalfa. They grow fast and they breed very rapidly, raising from five to eleven each litter. He has found no trouble so far selling all he raises, and often has more customers than he can supply.

MONEY IN NUT MEATS

By H. E. Martin, Jr., Ohio.

I made money last winter selling the meats of nuts that often go to waste about the farm. In the fall I gathered the hickory nuts, walnuts, etc., and piled them on the barn floor. After the hulls dried, with little work I flailed them off. Then, when I had time during the fall and winter evenings, I carefully shelled the nuts and put the kernels of each kind in separate glass jars, so that I could close them air tight.

These nut meats I sold to the candy makers at good prices. The buyers usually paid twenty-five to thirty-five cents a pound for clean, large nut kernels. I soon learned to shell fast; so I made good money for my work, much more than I would have made had I hauled the unshelled nuts to town and sold them.

Other boys ought to be able to make money in this way, for bushels of nuts go to waste on nearly every farm. And he doesn't need to live near a big city, either, for he or his father can write and bargain with city confectioners and send the nut meats by parcel post.

DISCREET

"Have you a careful chauffeur?"
"Very. He never runs over any one unless he's sure he can make a getaway."—Judge.

THE TOKEN

Country-house host (to arriving guest)—H'lo, Jack! Drove over with Miss Cuddles, eh? Ripping sleighing, but cold going, ain't it?

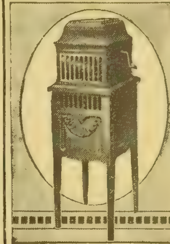
Jack (cheerfully)—Oh, didn't notice it.

Host—All right, then. Come in and thaw that earring out of your mustache.—Judge.

NEW

Mr. Edison's Wonderful New Instrument

WRITE *today* for our *new* Edison catalog—that tells you all about the wonderful *new* model Edison and our *new* Edison offer!



Hear the latest song hits of the big cities. Laugh at the funniest minstrel shows; hear the grand old church hymns, the pealing organs, the operas, the crashing brass bands, the waltzes, the two-steps, the solos, comic vaudeville, duets and quartetts. All will be yours with the Edison in your home.

The Offer We will send you the *new* model Edison Phonograph and your choice of all the brand new records on an **absolutely free loan.** We want you to hear all the waltzes, two-steps, vaudevilles, minstrels, grand operas, the old sacred hymns, every kind of comic and popular music, also your choice of the highest-grade concerts and operas, as rendered by the world's greatest artists. Entertain your family and friends. *Then when you are through with the outfit, you may send it back at our expense.*

REMEMBER, not a penny down—no deposit—no guarantee—no C.O.D. to us—no obligations to buy—*a full free trial* in your own home—*direct* from us—*direct* to you. Returnable at our expense or payable (if you want to keep it) at the rock-bottom price direct from us.

The Reason: We are tremendously proud of this magnificent new instrument. When *you* get it in your town we *know* everybody will say that nothing like it has ever been heard—so we are pretty sure that at least some one, if not you, then somebody else, will want to buy one of these *new style* Edisons, *especially as they are being offered now at the most astounding rock-bottom price and on easy terms as low as a few dollars a month.*

Our *New* Edison Catalog Sent *Free*

Your name and address on a postal or in a letter (or just the coupon) is enough. No obligations in asking for the catalog. Get this offer—*while this offer lasts*. Fill out the coupon now—today.

F. K. Babson, Edison Phonograph Distributors
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Gentlemen:—Please send me your New Edison Catalog and full particulars of your free trial offer on the new model Edison Phonograph.

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WE GIVE FREE

This **GOLD PLATED LOCKET,** opens to hold two pictures, set with a sparkling similitude **DIAMOND,** and a **22-inch NECK CHAIN** and these **4** beautiful **GOLD PLATED RINGS** to anyone that will sell only **12** pieces of Jewelry at **10c.** each and send us the **$1.20.** We trust you and take back all not sold. Address **T. P. DALE MFG. CO.** Providence, R. I.

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Over 300 Varieties Choicest

FLOWER SEEDS

Our New Giant

Flower Collection

Package Contains Over 3,000 Best Seeds

Bushels of Blossoms

This is without question the Grandest Collection of Beautiful Flowers ever put up. They will produce a perfect cloud of bloom and fragrance from earliest summer until the snows of winter. New beauties and wonders will open up every day. It will be a continual surprise to see the odd and curious—as well as the old favorites constantly appear. You can have bushels of blossoms for boquets, vases, and to give away.

Georgeous Combinations of All Shades and Colors

Each package contains the following—and hundreds of others:

Asters, All colors, Ageratum, Rose of Heaven, Sweet Peas, 10 Va., Ricinus, 12 feet, Calliopsis, Salvias, Larkspurs, Love-in-a-mist, Prize Poppies, Godetias, Petunias, 10 Var., Centaurea, Sweet William, Four O'clock, Job's Tears, Portulacas, 10 Var., Marigolds, Sweet Alyssum, Forget-me-not, Calendulas, Everlastings, 10 Va. Candytuft, Chrysanthemums, Stocks, Joseph's Coat, Zinnias, 10 Colors, Pinks, 10 Varieties, Sweet Mignonette, Nasturtiums, Cockscombs, Gilias, Mixed, Weather Plant, Mourning Bride, True Ice Plant, Clarkias.

God's Jewels for Earths Ornaments

Flowers are one of Nature's sweetest gifts to man. They are "little missionaries teaching us beauty, purity and innocence." Flowers cheer the heart and make the home life pleasant; nothing for the money spent, can give as much sincere pleasure and delight. No one should fail to plant these interesting flowers. Many are rare novelties. Just sow these seeds in the flower bed and see the surprises.

The Climax of All Seed Bargains

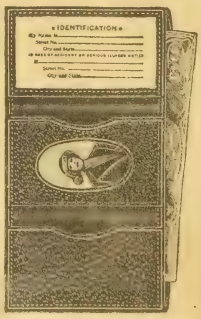
Such a bargain as this cannot last long nor can it be repeated here or elsewhere. Orders are pouring in, everybody delighted and telling their friends about our matchless offer so that our big stock of the Flower Collections will soon be gone. We urge you to order at once—to-day—while the supply lasts. Tell your friends about it. **Hurry!**

Our Big FREE Offer: Send 10c for a NEW six months' trial subscription to our big home monthly story paper, "THE FAMILY," and we will at once send you the complete GIANT FLOWER COLLECTION free and postpaid. Do it today! "THE FAMILY" is necessary in every home and family and we want you to try it. The Flower Collection is a wonder and will delight you. But send at once—TODAY—make sure of this tremendous bargain. Address:

Family Magazine, Seed Dept. Springfield, Ohio

Pocket Bill-Fold Given Free

This is a dandy all-leather bill fold. Just the very thing for a boy or man. Black grained leather. Places for bills, coins, stamps, business cards. A changeable yearly calendar and an identification card for the owner. Has three patent button clasps so it cannot come open. You will be well pleased with this bill-fold or pocket-book. Given free and sent postpaid to any person sending us one 3 year subscription to Farm News at 50 cents.



Send today. FARM NEWS, Dept. XX, Springfield, Ohio.

Posy Fairy Plant Free

THEY START TO GROW IN 48 HOURS

It is very amusing and interesting to start several of these quiet plants and watch them race each other in growth. This is an European novelty of rare interest. One of the most strange of Nature's wonders. The seed and soil are chemically treated so as to promote growth. For a limited time we will send one of these Posy Fairy Plants free to any person sending us only 15 cents to pay for a six months' trial subscription to our big monthly magazine, or two plants and 12 months' subscription for 25 cents.

Family Magazine, Floral Dept., Springfield, Ohio

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Laughograms

WOULDN'T SCARE HIM

"Why didn't you tooi your horn if you saw the man in the road ahead?"

"I figured," replied the chauffeur, "that it would be more merciful if he never knew what struck him."—Judge.

REJECTED ADVICE

Young Husband—A year ago you were crazy to marry me!

His Wife—That's what mother said, but I wouldn't listen.—Judge.

WOULD SERVE THE PURPOSE

Depressed Luncher—Have you any prussic acid?

Waitress—No, sir.

Depressed Luncher—Then bring me one of your steak and kidney puddings.—Philadelphia Record.

HIS AGE

Minister (to one of his members, a venerable old gardener)—You have reached a great age, John.

John—'Deed ha'e I, sir; for gin I leeve till the 11th of next month, I'll be an octogeranium.—Philadelphia Record.

ADVANTAGE OF USELESSNESS

The eagle gathers in applause
With dignity complete.
We let him pose around because
He isn't good to eat.
—Washington Star.

HIS GRADUAL ELEVATION

An old Georgia darky tried to explain himself as follows:

"Hit's de God's truth I dunno what war he wuz in—or ef he ever wuz in any. All I knows is, de fust time he gimme Chris'mas gif' I called him 'Cap'n' an' de nex' time he looked lak' a 'Gin'rul,' an' de las' Chris'mas he gimme a whole dollar, an' I said, 'Thanky, guv'nor; an' I reckon dat's how comes his elevation."—Atlanta Constitution.

BEATEN AT HIS OWN GAME

An anarchist said to a party of kings,
"My attacks, you'll observe I am stopping,
My bombs look like toys when compared to
to the things
Which upon one another you are dropping."
—Washington Star.

COLLEGE WISDOM

"What are the bonds of matrimony?"

"Baby ribbons."—Cornell Widow.

HER CHOICE

The Mistress—I shall take one of the children to church with me this morning, Mary. The General, Yes'm; which?

The Mistress—Oh, whichever will go best with my mauve dress.—London Sketch.

WITHIN HIS RIGHTS

Employe—Mr. Brown, I should like to ask a rise in my wages. I've just been married.

Employer—Very sorry, my dear man, but for accidents to our employes outside of the factory we are not responsible.—London Opinion.

THE USUAL WAY

Telephone Central—The number doesn't answer. What number did you ask for?—Philadelphia Ledger.

EXPERIENCED

Recruiting Sergeant—Want to join the cavalry, do you? Know anything about horses?

Applicant—Wot! me? Three winners and a second yesterday! Lummy, guv'nor! Wot do you think?—Punch.

THE REALITY OF WAR

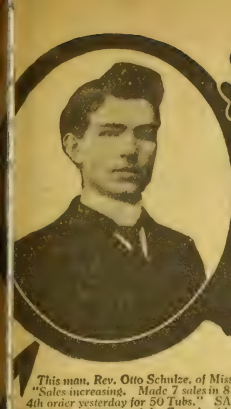
Mr. Mouatt, born tired, also father of a large family, had spent most of his married life in bed, while Mrs. Mouatt worked in the glass factory just to keep things moving. One morning Mr. Mouatt became impregnated with the large idea of getting out of bed at last and offering his services to his country. On calling at Mrs. Mouatt's one day last week, a lady found her in tears.

"Why, Mrs. Mouatt, what is the matter? Has your husband been wounded?"

"No, miss." (Loud sniffles.)

"Well, dear me! I hope he has not been killed!"

"Oh, it's worse than that, miss! 'E's coming 'ome!"—Judge.



$1000.00 = A MONTH

Ambitious, Honest Men Wanted

At Once. I Need 500 Sales Agents Who Want to Make From $50 to $250 a Week. Experience not Necessary—

I want square men to act as my Special Sales Representatives in every county. I want hustling, energetic, ambitious fellows, anxious to make big money, who are willing to work with me. I want to show YOU how to MAKE BIG PROFITS EVERY MONTH. I want to show YOU how to make more money, easier, quicker, more sure and certain than you ever did before in all your life. I want you to **advertise, sell and appoint local agents for the most sensational seller in 50 years**, the startling invention that has set the entire country agog **THE ROBINSON FOLDING BATH TUB**—I want you to handle your County. I'll furnish demonstrating tub on a liberal basis. I'm positive, yes, I'm absolutely certain that you can make bigger money in a week with me than you ever made in a month before. Hustlers, east, west, north, south, are simply coining money. Orders, orders everywhere. For, remember, fully 70 per cent of the people have *no* bathrooms. You can take the orders right and left. Quick sales and immense profits. Stop and Realize the tremendous possibilities. *Look* around you. Be amazed. Your neighbors, friends, relatives, have no bathrooms. They are eager for one; never had the opportunity to install one. You step in; show the tub. Sales made, profit sure.

No Experience Needed—Why, I don't care if you never sold anything before in all your life, you can make good big money with me. You're honest! You're square! Of course you are. You've got grit, ginger, gumption! Of course you have. You want to make good! You want to make big money? Sure you do. Well, that's all I ask. If you are willing to do your best, backed by my co-operation and help, you can blast out the biggest financial success of your career. I grant credit, you know, so money can't hold you back. I furnish sample on liberal plan. I help you out and back you up. So don't let doubt drag you back. You have nothing to lose. My other men are building homes, starting bank accounts, so can you.

Sensational Sales Success!—What others are doing YOU can do. Read these records. N. T. Smith, Ohio, $90 weekly profit. Meyers, Wisc., $250 first month. Beasley, Nebr., $35 profit first 4 hours. Newton, Calif., $60 in 3 days. Mathias, Fla., $120 in 2 days. Corrigan, N. Y., $114 in 60 hours. C. H. Tremour, Ind., $35 profit first 6 hours. W. F. Hincard, New Mexico, $35 in 2 days. Average men, average sales, average towns. Undeniable Proof of the Big Money to be made by the hustlers everywhere. The Robinson Tub is badly wanted and eagerly bought.

This man, Rev. Otto Schulze, of Missouri, says: "Sales increasing. Made 7 sales in 8 calls. Sent 4th order yesterday for 50 Tubs." SALES $1600 TO DATE. Minister of the Gospel, without previous experience, makes this record.

Folding Bath Tub For Every Home

home barred—for the rich and poor; for all homes hout modern bathing facilities—Here is an absolutely new ention. Nothing else like it. Has taken the entire country storm. Solves the bathing problem. Gives every home a dern, up-to-date bathroom in any part of the house. No plumbing, no waterworks led. Take full length baths in any room; up stairs, down stair, bed-room, sick-room, or, kitchen, any room in the house. The Robinson Tub folds in small roll, handy n umbrella. Rivals expensive bathroom. Constructed of the wonderful "Steeline" ma- al. I tell you, it's Great! Remember it is needed in every home. Means modern bath- facilities for all the people. A godsend to humanity.

uaranteed r 10 Years

nufactured by old estab- ed concern in business years.)

This is the Robinson Folding Bath Tub that is bringing Cleanliness, Health and Happiness to thousands of homes—and thousands of dollars in profits to the lucky men who control exclusive territory. Write for your county TO-DAY.

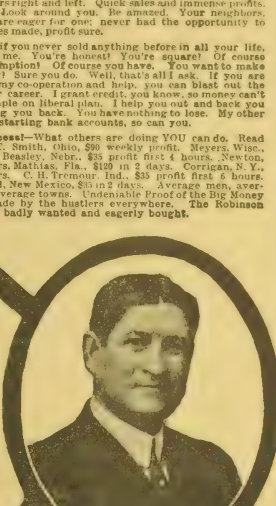
You Make 100% Profit

Demonstration Tub Furnished Workers

E how olds in a roll. Takes less space than an ning board.

FOLDED

Dan Burkholder of Montana, says: "Was out 4½ days this week and sold $393.50 worth. Sold 3 this afternoon. Enclosed find check for 48 tubs. Ship 50 more next week." **Orders $1072.00 worth in 17 days.** WHAT BURKHOLDER IS DOING YOU CAN DO!



Tear Off This Coupon and Mail Now

Yes, sign this coupon right now. Don't send me a single penny. Don't send me any return postage. If you want this money-making job, just sign and mail the coupon. That is all I ask. By sending the coupon you give me the chance to prove every word I have said. Let me prove every statement. Let me tell you the whole enthusing, ambition-awakening story of a tremendous world-wide success. Will you do this? Of course you will. Sign and mail the coupon NOW!

This is Chaney—A Hustler. Sold $1,000.00 worth of our goods in 5 weeks. No, he's not a genius, not a wizard-worker, not a "miracle-man." Just an everyday American like you and me—but a hustler from his head to his toes. He started just as you will start. What he has done you can do.

Join Robinson's Army of Money-Making Agents—Get Exclusive Sales Rights on the Famous Folding Bath Tub—

Yes, join the many agents who are making bigger money than they ever did before. **You don't need to quit your regular job right now.** Try the business out evenings, Saturday afternoons, whenever you have a little spare time. See that all I tell you is so. Then quit your job. Say good-bye to the time-clock; say good-bye to grinding work and meagre pay. I know after one week of spare time effort, you will be eager to devote all your time to my splendid proposition. You will be enthused, positively amazed at your wonderful success.

A Sure Chance for Ambitious Hustlers

If I could only see you and tell you all the facts about this wonderful business; if I could only lay before you undeniable proof—stacks of letters and orders on my desk; if I could personally show you enthusiastic letters from Robinson Representatives—Hesitate! Why, man, you wouldn't hesitate for the thousandth part of a second. You would drop everything, your job, your other business like a "hot potato" and say "Robinson, I'm with you." If you really want to get into a big money-making business, get into communication with me at once.

REE Information Coupon

. S. ROBINSON, Pres't
obinson Cabinet Mfg. Co., 544 Factories Bldg., Toledo, Ohio.

Write me and tell me all about your special plan and how I can make big oney acting as your representative. This obligates me in no way.

ame.....

and No.....County.....

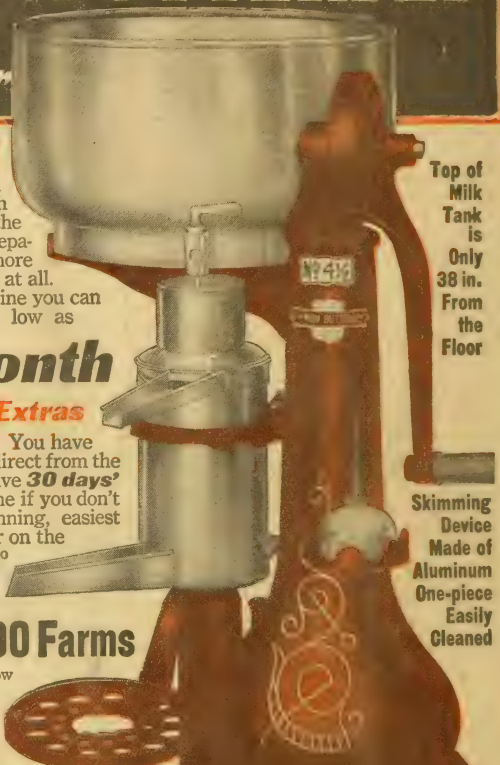
ate.....

WRITE TO-DAY

Send No Money Just Sign the Coupon

H. S. Robinson, Prest., The Robinson Cabinet Mfg. Co.
544 Factories Bldg. - - Toledo, Ohio

$2 Brings You This Big LIFE-TIME GUARANTEED NEW BUTTERFLY Cream Separator



Top of Milk Tank is Only 38 in. From the Floor

Skimming Device Made of Aluminum One-piece Easily Cleaned

On 30 Days' Trial

At Our Risk. Then if pleased you can keep it and pay only a little each month out of your extra cream profits until the machine is paid for. In this way the separator itself will earn its own cost—and more before you pay. You won't feel the cost at all. If you do not need a large capacity machine you can obtain a smaller one on payments as low as

Only $2 a Month

No Interest To Pay—No Extras

The prices we quote include everything. You have no extras to pay—no interest. You buy direct from the manufacturer and save nearly half. We give ***30 days' trial*** on your own farm. During this time if you don't find the New Butterfly the lightest running, easiest cleaning, and best all around separator on the market (regardless of price) you don't need to keep it. Just send it back at our expense and we will refund what you paid, including all freight charges both ways.

Used on More than 30,000 Farms

Over 30,000 New Butterfly Cream Separators are now in use. No doubt some of them right in your own neighborhood. We have been advertising in this paper for years—the publishers know us and know we do just as we agree. Read these letters from just a few of thousands of satisfied owners:

Seven Years Old—Runs Like New

"The Butterfly Separator we purchased of you about seven years ago is still doing fine work. I recently took it apart and cleaned the gears with coal oil. Now it runs like a new machine and works as well as ever."
H. S. Stonebraker,
Kokomo, Indiana.

Twelve-Year Old Girl Runs It

"We would not do without our Butterfly Separator or exchange it for all the other machines we have seen. Our little girl, 12 years old, runs it like a clock."
Mrs. P. E. Rude,
Ashland, Wis.

Made $61.39 More From Same Cows

"We made $78.61 worth of butter before we had the machine and in the same length of time, we made with the Butterfly Separator $140.00 worth of butter from the same number of cows."
Thos. S. Kermosky,
Point Aux Pius, Mich.

Lighter Running and Easier to Clean

"We don't see how we got along without the New Butterfly as long as we did. It runs lighter, is easier washed and kept clean than the higher priced machines in this neighborhood."
R. E. Morrison,
Ollie, Mont.

Fill Out The Coupon MAIL TODAY

Why not get one of these big labor-saving, money-making machines while you have the opportunity to do so on this liberal self earning plan? Let us send you our big new illustrated Catalog Folder showing all the machines we make and quoting lowest factory prices and easy payment terms. We will also mail you a book of letters from owners telling how the New Butterfly is helping them make as high as $100 a year extra profit from their cows. Sending coupon does not obligate you in any way. Write today.

New Butterfly Cream Separators

are the only ones having the patented one-piece aluminum skimming device, very easy to clean. Light-running vertical shafts; frictionless pivot; ball-bearings bathed in oil low down, self-draining milk tank; closed drip-proof and dust-proof bottom. Simplest and most sanitary machine on the market.

Send Coupon for Catalog Folder.

ALBAUGH-DOVER CO. 2272 Marshall Blvd. CHICAGO, ILL.

Albaugh-Dover Co., 2272 Marshall Blvd., Chicago, Ill.

Gentlemen: Without obligation on my part, please send me your Catalog Folder and full particulars regarding the easy payment offer on the New Butterfly Cream Separators. I keep

Name

P. O.

State

R. F. D.

30.3 Ag R.R.
FAS

FARM NEWS

All That is New and Best for the Farmer

MARCH Springfield, Ohio 1915

Assuming the Initiative in Spring Activities

"Another Banner Year" for the American Farmer

OPTIMISTIC NOTE SOUNDED FOR 1915

By Men Who Are Making the Fight Against Business Stagnation

AMERICA THE GRAIN HOUSE FOR EUROPE

From our viewpoint the two brightest spots in our outlook for 1915 are Motor Trucks for traffic and Automobiles for the farmer, and we can surely depend upon the European War to expand business in both of these lines.

As to the automobile for farmers' use. The price of all grains is high, and as the war continues will go higher. This year's crops are vast, and the high price will stimulate great acreage for next year. Crops in Europe will be reduced to a half or third. For the next year or two, America will be the grain-house for the whole of Europe. The farmer will reap the benefit. With his increased means, and with his paved country roads, the farmer will buy automobiles. They are more useful to the farmer than to the man in the city; and the time will soon be here when not to have a machine will mark a farmer as a back number or a failure.

H. S. FIRESTONE,
Pres. Firestone Tire & Rubber Co.

PEACE TALK WILL LEAD TO PROGRESS

There is no real reason for the slowing up. Especially among the farmers, who are the people just now who have the money. The big prices for wheat have made farmers in this section of the country a lot of money. A year ago we had a big drought through part of Missouri, Southern Iowa, Southern Illinois, Kansas, Nebraska, and Oklahoma. It got the corn crop. The result was there was bigger acreage of wheat in Kansas, Nebraska and in parts of Oklahoma. Last harvest was a big harvest. Kansas claims to have one fifth of her wheat crop still in the farmers' grain bins. Wheat is ranging around $1.50 per bushel. Lots of farmers right here in this vicinity have sold wheat at between $1.25 and $1.50. Very few sold at harvest time, before the war was declared, and got the low price at that time. Most of them held for the dollar and got it.

We had a fair crop of corn. Corn is worth $0.85. Times are good for the American farmer. It is one of these times when things stand still. That is the reason for poor business, but it will all come back again. Some say the war is going to last a long while, but I can't believe it. I think one of these days there will be a decisive battle and right away after that there will be talk of peace. Once the peace talk starts things will make rapid progress.

H. H. JOHNSON,
The M. M. Johnson Co.,
"Old Trusty" Incubators and Brooders.

ERA OF PROSPERITY ASSURED

We believe the American farmer will enjoy great prosperity, at least for the next 5 or 10 years, and they are certainly entitled to it after the long hard years of the past. There are unlimited possibilities right at their door, and the vast majority of them are too wide-awake to let many of these opportunities get away. And in the future they are going to use better roofing—the CERTAIN-TEED kind—better equipment, and are going to have more time to enjoy themselves by the way-side.

GENERAL ROOFING MFG. CO.

GREATEST OPPORTUNITY EVER OFFERED

Basing our prediction on business done so far this year, 1915 will be our Banner year since starting business in 1887. A farmer never purchases fence until either compelled to for line fences or when he feels by cutting up his fields he will be able to produce

(Continued on Page 40)

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly **Renewals:** Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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SPRINGFIELD, OHIO

MATTHEW C. YOUNG, PRESIDENT

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV — MARCH, 1915 — Number 3

"Another Banner Year" For the American Farmer

Every condition points right now to another "Banner Year" for the farmer. This is the opinion of the wisest.

The farmer is prosperous, or at least he should be. The promise of another big banner year is before him. He should be buying the things he needs and preparing right now for the big rush and the big prices again.

There has been a good deal of talk about hard times. The fact of the matter is times are not hard. There is no reason why they should be. There is plenty of money in the country. The farmers harvested one of the biggest crops in the history of this country, and sold it at a top price. Money is plentiful. There is plenty of money to be invested. Conditions are better today for investments than ever before. A great deal of the danger to the investor has been removed. The big corporations must take better care of the people who furnish them money with which to do business.

Just why business does not move forward briskly is a problem that is hard to analyze. Of course, some of it may be due to the terrible conflagration that is sweeping over Europe, but it can hardly be affecting us to any great extent. In fact, it has been doing us some financial good in a great many instances.

We are of the opinion that present conditions are largely mental. A great many manufacturers are holding back in fear. I believe all they need is a little confidence.

We are asking the farmer to step to the front and purchase his needs, so that the money may again be put into circulation, in order that it will reach the factories and manufacturing districts and help to relieve the pressure there.

There is no logical reason for being pessimistic or panicky, or scared. Our country was never in a better or sounder financial condition. The demand for all kinds of products in the near future is going to be tremendous—more than we can ever hope to handle properly, and the longer we wait the more difficult this condition will become.

Elsewhere in this paper we are printing a number of contributions from some of the leading advertisers of the country. The fact that this country has as much business as it enjoys at the present time is due largely to the advertisers. They have come boldly forth in the face of all kinds of opinion and conditions, and have spent their money freely in advertising their wares, and contributing their best efforts to again bring business to its normal condition, and they, above all others, are the men who should command your respect.

You should buy from the advertisers in this paper. You should encourage them. They are really the men who are in the trenches at the front, fighting the battle for all of us. They are at the front cheering on business. The "stay-at-homes" and the "hard-times knockers" are sitting back talking hard times and squeezing down the brakes.

Lets all go to the front and the battle is won. Old "General Pessimism" and his army of knockers are now on the run. Let's finish them.

$25.00 IN CASH PRIZES

FOR THE TEN BEST WAYS OF USING THE AUTOMOBILE ON THE FARM

The use of the automobile for the pleasure of the family is the particular feature which has been emphasized in sales efforts directed to the farmer. The practical use of the automobile on the farm has rarely been touched upon, and it is really one of the most vital points of interest for the prospective farmer-purchaser. The purpose of this contest is to bring out, from persons who know, and from those who can see, the possibilities of using the automobile as a labor-saving, time-saving, money-saving machine, in doing the every-day work of the farm, as well as affording pleasure.

This is not to minimize the value of the automobile as a pleasure-giving medium, but is more to bring to the attention of Farm News readers the many ways in which the machine may be used to perform the many tasks around the ordinary farm efficiently and economically. Now then, it is up to you to tell us of ten ways in which the automobile may be used in the performance of farm duties, and to the person sending in what we consider to be the ten best uses we will give a

CASH PRIZE OF $10.00

To the person sending in what we consider to be the second-best set of uses we will give **$5.00 in cash**, and for each other contribution used we will pay **$2.00.**

Just stop to think in your round of work each day, to what particular task the automobile could be applied, and thus enable you to get the job done more quickly and easily. There are any number of things that will suggest themselves if you will stop to consider. Then make a memorandum, and when you have ten ways of using the automobile in your work, write us and tell us what they are. If you have the ten best uses, we will send you **$10.00 in cash.**

Write on one side of the paper only, sign your name and address plainly, and don't be afraid that you will not be able to tell correctly what you want to say. We'll help you with that. Send your answer to Automobile Editor, Farm News, Springfield, Ohio.

ANOTHER FREE PRIZE

Our last month's "SEND" Contest was a big success. We are going to have another this month, with an entirely different prize gift for each one. Here it is:

To every person who send us the correct number of times the words "SEND" and "WRITE" appear in the advertisements in this issue of FARM NEWS we will send a handsome Surprise Gift, FREE and PREPAID. Send no money. Just see how many times you can find the words "SEND" and "WRITE," tell us, and, if it is correct, you get the present. Costs you nothing to try, so get the present. Address "SEND" and "WRITE" Editor, FARM NEWS, Springfield, Ohio.

Contest closes April 10, 1915.

FARMER'S RECORD BOOK FREE

We will send you a "Farmers' Handy Record Book" for keeping account and track of the business on your farm, FREE and POSTPAID, if you will answer the following questions:

Do you own a farm?..... How many acres?.....
How many farm papers do you subscribe for? .....
Are you specializing in any branch of farming? .....
If so, what? .....
Are you a member of any farmers' organizations or clubs .....
How much live stock do you own?..... .....
How far do you live from town? .....
Do you own an automobile? ..... What make? .....
In your judgment, what priced car would be best suited to the average farmer's needs? .....
What is your choice of the different makes of cars? .....
Do you expect or intend to buy a car? .....
What kind? .....
Name .....
Address .....

Send your answer to Information Bureau, Farm News, Springfield, Ohio.

"BE READY" IS SPRING SLOGAN

For the Farmer Who is Alive to His Own Interest and Takes Advantage of Time to Get Best Results

LAST spring, you remember, you decided to think and work ahead, so as not to get behind in the rush of spring work. Did you do so? If not it is not too late to help out matters now, even though winter is the best time to think and lay our plans.

Spare hours can well be occupied in painting, oiling, scouring and repairing all tools and implements. It is not a safe plan to wait until the day we want to use tools to get them ready. When spring comes it usually comes with a rush, and we should be prepared to make the most of the hours when time is valuable.

All tools should now, if it has not already been attended to, be put in first-class shape. Broken parts should be repaired, nuts tightened, cutting edges sharpened, and all implements cleaned thoroughly.

A little time now spent in grading and cleaning seed grain will bring ample returns in a full crop. Testing and cleaning of seed before the spring rush is a matter of vital importance. It is not safe to wait until corn planting to test seed. If our seed isn't good we should find out now, so that we can have plenty of time to secure good seed. We all know the yield is dependent on quality.

No farmer can tell by the appearance of seed whether it will grow or not. Thus all seed corn should, for best results, be tested ear by ear. Seed grain filled with chaff, weeds or dirt will not make the best plants nor produce the largest yield. A little time spent in putting the grain through the fanner will mean increased and better crops. We should remember that we get out of a crop exactly what we put into it in the way of previous preparation.

Then, too, there is the farm garden, which should be ample to not only supply the table during growing season, but also provide vegetables to store for winter use. A little judicious planning and a little forethought makes this an easy matter. The amount of vegetables needed, the kind of seed desired, and the best-liked varieties can be decided upon now. In planning the spring work bear in mind the importance of the garden. It can not only be made a real pleasure, but a source of profit as well. A farm garden needs the same thought and careful planning as does the rest of the farm. If son John wants to plant some special vegetable, and if daughter Mary wants to plant some flowers, find space for both, as the little folks will find great pleasure in thinking that they are taken into a sort of partnership.

Another important item to consider is the care of the horse during this time of the year. At this season of the year, when the horse is shedding, some food besides corn should be fed, if we expect our horses to do their best at spring work. Corn needed in winter to keep the animal warm should now, with the approach of spring, be gradually cut down, and oats substituted with an occasional bran mash, until the work in the fields begins in earnest.

Careful selection of seed corn for uniformity is a task which pays big dividends in increased yield

The horse needs far more grooming at this season than at other times. It is necessary to keep the bowels open. Changes in feeding, however, should be made gradually, for sudden changes of food too often are the cause of indigestion and colic, to which can be traced many summer ailments. Horses fed on hay and oats, along with an occasional bran mash, not only stand the spring and summer work well, but do not suffer from excessive sweating.

At this season many chicken coops can be made, for when the spring rush is on the good wife will have need of the coops, and no farmer cares to stop work to make chicken coops, important as the making of such coops may be.

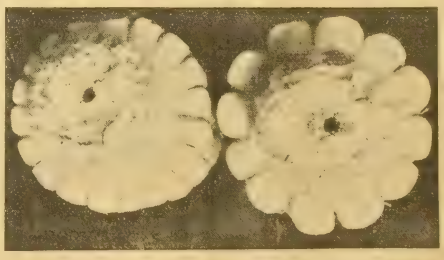
Now is undoubtedly the time to get these small but highly important jobs off our hands before the rush begins, and the next year we will be better able to think and plan ahead than this. Of course, it may be necessary to change our plans now and then, but a definite plan helps us to do things at the best time, and avoid leaving many things undone.—H. D. Akers.

SEED CORN

We have again reached the time when it behooves the live farmer to begin his selection of seed corn. Having begun this work last year, by making a judicious selection in the field, and followed up this praiseworthy attempt to better this year's crop by a careful storing system, he can proceed in the further elimination of defective seed by using home-made contrivances in the selection of ears, the kernels of which show strong virility.

The box used should be flat, and be subdivided by strings into spaces, which should be numbered to correspond with the ears from which the kernels are taken. Upon a bed of damp sand the kernels should then be placed, and covered with a damp cloth. In making the selection it might be well to keep those showing the strongest vitality to plant in a plat in the field by itself, and thus form the basis for next year's seed selection.

If the practice of selecting the seed ears in the field has been followed, you should have a pretty good line upon the size of stalk, ear, number of ears to the stalk and the tendency to early maturity. In order to secure a uniform stand the seed must of necessity be of uniform size, as it is impossible for any planter to drop irregular sizes of seed with any degree of uniformity.



Uniformity is impossible when ears like these are used in making the selection

Discard the butt and tip kernels, using those of the more uniform type in the middle of the ear. This will simplify selection for uniformity in size and also insure an even stand of uniform stalks. This year promises to bring an era of excellent prices for farm products, and if the farm income can be increased by careful selection of seed it is the best of good business judgment to take the advantage of every move to increase the profit.

BANNER YEAR PREDICTIONS

Everything Points to Another Year of Unexampled Prosperity on the Farm

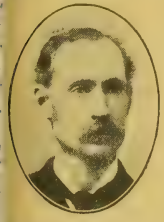
By Farm News Contributors

LOOKING UP THE DAIRY STAIRCASE

By Edgar L. Vincent.

The arrows on the top of the barns of the neighborhood show which way the wind is blowing in that particular part of the country. Once in a while a pointer may get "set" and mislead the passerby, but if the most of those we see tell the same story, we conclude that we are right in our conclusions.

A good many things tend to the cheering prophecy that the year 1915 will be best we have ever had in the dairy business. It is worth while to gather up some of these.



To begin with, then, this is a safe prediction, because the men of this country who are engaged in dairy farming never had a stronger purpose to inspire them than now. More men are determined to do their level best this year than ever before, and, if there were nothing else to lead to the conclusion that we are going to win victories we have not in the past, that would do it.

It is no commonplace to say that the output of the farm dairies of this country will this year be the finest so far turned out. We know how to feed better than before; we understand how to care for milk better; we have mastered the art of turning milk and its products into money as we have not in the past. And we have the best dairy equipments the sun ever shone upon. Human thought could not well devise more beautiful, more complete nor more perfectly adapted machinery than we have today.

So, too, in the matter of the cows with which we have to deal. There are at the present moment choicer cows on the farms of the United States than we have seen at any time in the past. By careful breeding and long-continued selection we have succeeded in gathering about us cows that stand at the very head of the world's great herds. Not only in the quantity, but also in the quality of the milk produced. Our barns, our dairy houses, our sources of water supply, our pastures and our knowledge of right methods of treating cows—all these lie in the same direction, warranting the prophecy that when the curtain rings down on 1915 it will find the American dairy farmers far in the lead of anything they ever have attained in times gone by.

A wider survey of the situation adds emphasis to the same cheering conclusion. The world outside is in a turmoil. If the trouble across the seas should come to an end tomorrow, there would still be a most promising prospect for our dairy farmers for a long time to come. All eyes are turned toward us as the great reservoir for everything that is needed to supply human wants—and we are going to be equal to the demands placed upon us. Our markets today are world markets. The time has gone by when we will look upon the markets of the cities and towns near to us as our only outlet for butter, milk and cheese. The greater markets out yonder beckon us—yes, they implore us—to furnish them needed supplies.

We do not need to say anything about the ever-increasing demand for fine dairy products, with the growth in population that must be a foregone conclusion—nor is this demand on the part of home consumers ever going to be any less than it is now. The tug is all the other way. With every passing year, more and more dairy products will be needed; and the greater the necessity, the more brilliant the prospect.

All in all, the outlook is certainly a most encouraging one.

SIGNS OF PROMISE FOR ORCHARDISTS

By Alvah H. Pulver.

The orchardist has not yet come fully into his own. Big fortunes have been made and lost in the growing of the apple and other fruits. From haphazard and promiscuous efforts the production of fruit on an ever-increasing scale has progressed along lines tending to secure a more systematic distribution of the crop, with proportionate increase of return to the grower.

There have been high points and low points, as for instance the present season, in the development of the industry. To many growers the last season has been one of travail, and, as in all times of stress, this profitless period has called on the powers of introspection. An abrupt break-off of the European market produced a climax at once, and, with a bumper crop at command, the big dealers saw that there must be a provision for such a contingency, if the orchardists of the country were to be assured of an outlet for the increasing crops in this and the years to come.

Two definite and positive defects in the present system of distribution were discovered, which, when remedied, will amazingly increase fruit consumption. The defects were found to be, an exorbitant overcharge for apples and other fruits in the city retail markets, tending to repress consumption in times of plenty; and an almost complete ignoral of trade possibilities with the countries of South America, amounting to the throwing away of a profitable trade that would materially improve each year.

Thus the abnormal season, now drawing to a close, also points the way to greater trade possibilities than the orchard men ever dreamed existed. The American market will consume thousands and thousands of additional barrels of fruit when better distribution methods, now being studied and proposed, are carried into effect.

In a season when apples of fair quality were delivered at the cider mill for five cents a bushel, with no market at any price in some sections, city buyers were paying in many instances at the rate of lean-crop prices. Happily for the grower it is becoming apparent to all concerned that this practice, if continued, will materially disturb the perpetuity of the industry. The "Banner Year" for the orchard men would be every year with less wasteful and exorbitant methods of distribution.

The Argentine trade for apples has of late been stimulated to a marked degree. The fruit is admitted free of customs duties, and is almost invariably turned over by the importers to the retailers just as received from the steamer, without sorting or repacking. The retail merchants are contented so long as there are not more than six or seven bad apples to the box. The price usually paid by them ranges from $3.00 to $5.00 per box. Some of the very fancy apples from California bring even higher prices than this. The retail stores and fruit stands sell apples more in accordance with size and color than by their quality, receiving from 84 cents per dozen for the best average apple to 50 cents per dozen for the small red ones.

With these tempting openings now dawning as new markets, better distribution among the home markets, and reasonable hopes that the European conflict will by another season take that turn which will open their ports, the orchardists should take new courage in the brilliant prospects before them.

OUTLOOK FOR BREEDERS OF BEEF CATTLE

By Harry D. Akers

For years the United States, with its sparsely settled population, its industrial development, its highways of

(Continued on Page 32.)

FORMULAS FOR SPRAYS

Insecticides

LEAD ARSENATE

(Paste) 3 lbs., or
(Dry) 1½ lbs.
50 gals. Water

Spray upon foliage to kill all chewing insects. May be used with Bordeaux or with lime-sulphur mixture.

PARIS GREEN

1 lb. Paris Green
3 lbs. Lime
100 gals. Water

Spray upon foliage to kill potato beetle, elm leaf beetle, and all biting insects. Commonly used with Bordeaux mixture.

NICOTINE SOLUTION

½ pt. in 50 gals. Water

Several solutions are now sold containing 40 per cent or more of nicotine. Excellent for killing aphids and other sucking insects. Add soap for a spreader.

Fungicides

SELF-BOILED LIME-SULPHUR

8 lbs. Fresh Whitewash Lime
8 lbs. Fine Sulphur
45 to 50 gals. Water

Start the lime slaking, sift and thoroughly stir in the sulphur, using just enough water to prevent burning and allow to boil from heat of lime for fifteen minutes. Then dilute and apply.

FORMALIN

A. 1 pt. (1 lb.) Formalin in 50 gals. water for grain smut.

B. 1 pt. Formalin in 30 gals. water for potato scab

C. 1 pt. Formalin in 12½ gals. water for soil treatment. Use two-thirds to 1 gal. for each square foot of surface treated; cover for 24 hours after treatment; air afterwards, and stir soil, allow 7-10 days before seeding and 10-14 days before transplanting in this soil.

COMMERCIAL LIME-SULPHUR

Winter Spray	Summer Spray
1 part L. and S.	1¼ to 1½ parts L. and S.
9 parts Water	45 to 50 parts Water

Use winter spray for San Jose scale and peach leaf curl; summer spray for fungi, to which, as needed, add lead arsenate to kill chewing insects.

BORDEAUX MIXTURE

4 lbs. Copper Sulphate 4 lbs. Fresh Lime 45 to 50 gallons Water

Dissolve copper sulphate in hot water or from a coarse bag suspended in cold water; slake lime separately and strain. Dilute latter to about 20 gals., into which pour copper sulphate diluted to about 20 gals., stirring mixture; dilute further to form 45 or 50 gals.; or dilute each to 25 gals. and pour together. Stock solutions of copper sulphate and lime, rate, 1 lb. to 1 gal. water, can be made separately and used as needed.

APPLE

Bud-Moths; Case Bearers; Leaf Crumpler—Small over-wintering caterpillars which feed upon the unfolding leaves. Spray with lead arsenate as soon as leaf buds begin to open. Repeat a few days later.

Canker-Worms — During May small looping caterpillars devour the leaves and spin down on threads undisturbed. Spray foliage with lead arsenate before, and again soon after, blossoms open. In unsprayed orchards sticky tanglefoot bands should be placed around trunks of trees in October, kept sticky until January 1, and again during April and May.

Tent-Caterpillar—During May the caterpillars form nests at the forks of the branches and devour the leaves. Clip off and burn egg-masses on twigs in winter. Remove nests with caterpillar brush. Spray with lead arsenate once before, and again soon after the blossoms fall.

Lesser Apple-Worm—Larva feeds on exterior of nearly mature fruit, and often causes injury in storage. Spray with lead arsenate as soon as the blossoms fall. Repeat three or four weeks later. Keep foliage and fruit covered until fruit is nearly grown.

Codling-Moth or Apple-Worm—Pink caterpillar, tunnels inside the fruit, especially around the core. Spray as for Lesser Apple-worm.

Gypsy-Moth—Caterpillars which defoliate trees in May and June. Band tree with tanglefoot and with burlap, which should be examined each day to destroy caterpillars. From August to May egg-masses can be destroyed by soaking them with creasote. Spray foliage with lead arsenate.

Curculios—Grubs of both apple and plum curculios tunnel inside the fruit, making it gnarled and ill-shaped. Spray twice after blossoms fall as for coddling-moth.

Green Fruit-Worms; Palmer-Worm; Leaf-Roller—Caterpillars, all of whom feed upon foliage and immature fruit. Spray with lead arsenate as for coddling-moth.

Tussock-Moth — Tufted caterpillars of several species which feed upon the leaves in mid-summer. Spray with lead arsenate as for coddling-moth.

Yellow-Necked Caterpillar; Red-Humped Caterpillar—These feed in clusters, and often strip young trees in fall. Hand picking is the easy method of control. Spray leaves with lead arsenate.

Maggot, or Railroad-Worm—Maggot which tunnels through the pulp of the ripening fruit of sweet and sub-acid varieties, especially those ripening early in the season. Destroy all infested fruit.

Green and Rosy Aphids — Green aphids which suck sap from the leaves and terminal shoots, causing leaves to curb and checking growth. Rosy aphis infests fruit clusters, checking development. Spray with nicotine solution (1-2 pint in fifty gallons of water).

Red-Bugs—Two species of red leaf-bugs which suck the sap, causing leaves and fruit to become distorted. Spray with nicotine solution as for aphis.

Tarnished Plant-Bug—Injures developing fruit by sucking sap, forming dimples. Spray with nicotine solution as for aphis.

Red Spider; Clover Mite—These cause great injury to leaves, especially in dry seasons. Spray with kerosene emulsion or nicotine solution as summer treatment. Eggs of latter species killed by lime-sulphur spray in winter.

Oyster Shell Scale; Scurfy Scale—Scale insects with elongated or pear-shaped shells, on bark, sucking sap from the twigs. Spray with nicotine solution; soap and water, or kerosene emulsion about the second week in June.

Round-Headed Borer; Flat-Headed Borer—These are grubs which burrow in the wood at base of trunks. Watch trees and dig out borers whenever sawdust appears. Paint trunk with lead arsenate and lime-sulphur.

Wooly Apple Aphis—A bluish-white cottony plant louse in colonies in bark, forming galls or swellings on twigs of small trees and preventing wounds from healing; also on roots, forming galls, and small feeding roots are destroyed. Plant only clean or fumigated stock. Use tobacco dust in soil around trees. Spray above ground with kerosene emulsion.

Baldwin Spot—Shows as small diseased masses of brownish tissue usually a short distance beneath the skin, but finally may appear at the surface as small discolored, shrunken areas, very similar to some of the fruit speck troubles. Not a fungous, but apparently physiological disease. Thought by some to be due to unusual local loss of water; possibly may start from punctures of rosy aphis or similar puncturing insects. No remedy known.

Black Rot—Causes mature fruit to rot, eventually turning it black; forms small brown spots on leaves; does serious damage through cankers on

(Concluded on Page 41)

Care of Breeding Animals

An Intelligent Discussion of Some of the Important Points

By Purdue, Underwood and Meredith

MANAGEMENT OF THE STALLION

Practically all authorities agree that the breeding horses of the farm should also be the teams of the farm. In the majority of cases the mares now do the necessary farm work while producing the colts, but the stallions are seldom required to do any work. However, there are several good reasons why the stallions should do regular farm work, except in the stud season. Broken when young, and worked regularly. they are just as reliable and more enduring than geldings, and they are not near so apt to become vicious as when kept in close confinement.

Again, there is no principle in nature better understood than that action develops nerve force, and consequently strength, while inaction results in weakness. And since the usefulness of the stallion depends almost wholly upon nerve force and action, everything possible should be done to increase these qualities in the animal. Few people realize how enervating it is for a horse, which by nature is a very active animal, to be kept without the proper exercise. The enforced idleness of the stallion is especially damaging because it results in weaknesses which are imparted to his offspring.

The horse can only impart to his offspring that which he has, be it strength or weakness. Hence the importance of giving the stallion the regular work belonging to the type which he represents, just as the trotting stallion is worked regularly to the cart. The farm stallion that is thus handled is sure to develop additional nerve force, heart and lung capacity and strong bone and muscle, all of which desirable qualities will be imparted to the colts that he begets, in all probability.

Draft stallions are the biggest and strongest of all horse kind and, properly broken and managed, are well able to pull heavy loads and operate heavy machinery that present-day farming demands. When one of these animals stands idle, his powerful muscles represent so much energy going to waste. And since the ultimate aim in draft-horse breeding is to produce a work horse, it is befitting that the stallion himself should be tried out in the harness.

The stallion should be taken at an early age and hardened to work gradually, never overstrained, but never allowed to loaf on his job. It is well to break him in as a two-year-old, and keep him doing as much as other colts of his age. He should be worked in double harness with a mare if possible, but if it is more convenient to mate him with a gelding there is no reason why this should not be done. Always there will be need of a strong harness and a steady hand on the reins; he is not an animal to be driven by a child or woman. Don't allow him to squeal or make a nuisance of himself. It is generally an easy matter to manage a stallion, if his driver makes him thoroughly understand that he is the boss.

Whenever conditions make it entirely impractical to work the draft stallion, or if he is now too far along in age or too well established in his habits for breaking, he should at least be given an airy and well-lighted box stall, and the free run of a lot every day, except in severe weather. An acre or two enclosed with a strong, close-mesh, high woven wire fence, with no barbed wire attachments, will contribute to his health, vigor, strength and potency, as well as to his happiness.

SELECTING THE HERD LEADER

In the selection of the dairy sire, as in other things, there are always various conditions to be considered. Very many set rules cannot be laid down that will cover all cases, but there are a few essential features we must always look for. In the first place he must be a distinct breed, as we can

(Continued on Page 28)

THE DOCTOR'S WIFE

Agrees With Him About Food.

A trained nurse says: "In the practice of my profession I have found so many points in favor of Grape-Nuts food that I unhesitatingly recommend it to all my patients.

"It is delicate and pleasing to the palate (an essential in food for the sick) and can be adapted to all ages, being softened with milk or cream for babies or the aged when deficiency of teeth renders mastication impossible. For fever patients or those on liquid diet I find Grape-Nuts and albumen water very nourishing and refreshing.

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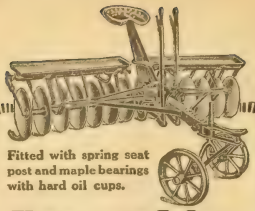

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Spring Wheat in the Corn Belt

By A. T. Wiancko, Chief in Soils and Crops
Purdue University, Indiana

THE numerous inquiries received by the Experiment Station concerning the production of spring wheat indicate that farmers are considering the advisability of raising spring wheat this season. These inquiries are coming from all parts of the State and seek information concerning the adaptation of spring wheat to Indiana conditions, the cultural requirements of the crop, how it compares with winter wheat, whether it may be profitably grown in the place of oats, the best varieties, where to get the seed, etc. This bulletin is prepared with a view to answering some of these questions and giving a general idea as to what may reasonably be expected in the way of spring wheat yields.

The immediate cause of this widespread interest in spring wheat is the present high price of wheat and the prospective large demand for food stuffs due to the European war. Whether or not this demand and the high price will keep up until a crop can be grown and marketed we do not pretend to foretell, and so we do not feel that we can definitely advise one way or the other. If the price keeps up it might pay to grow some spring wheat and the crop might very well take the place of some of the oats.

To give some idea of what may be expected in the way of spring wheat yields, we would call attention to the results secured at this station. During the last five years the average yield of one of the leading varieties of spring wheat was 11.7 bushels per acre against 27.4 a bushel of winter wheat and 37.9 bushels of oats on the same ground. As the seasons of 1911 and 1914 were unusually hot and hard on spring grown grain, the oats and spring wheat averages above cited are abnormally low. The 10 year average oats yield on the university farm, is practically 50 bushels and the winter wheat average is about 28 bushels to the acre. On the same relative basis we might expect a spring wheat yield of about 16 bushels to the acre. In other words, it would seem reasonable, under normal conditions, to expect a spring wheat yield equal to about one-third the normal oats yield, and between one-half and two-thirds the normal winter wheat yield on the same land.

The cultural requirements of spring wheat are not much different from those of oats. As a rule, however, the seed bed should be somewhat more carefully prepared since the wheat is not so vigorous a feeder and will not do well under the careless treatment usually given to oats. Spring wheat is naturally a cool climate crop and probably suffers more from hot weather than either oats, rye or barley. It is important therefore to get it sown as early in the spring as possible. For this reason, it is not usually advisable to take the time to plow the ground the advantage gained in the more thorough soil preparation may be more than offset by the consequent delay in the time of seeding. It has been the practice of the Station to drill spring wheat on corn stubble ground after thorough double disking and harrowing. Drilling the seed is much better than sowing it broadcast.

The rate of seeding should be about six pecks per acre. If broadcasting is necessary, as may be the case when seeding on corn stalk ground where the drill will not work satisfactorily, somewhat more seed should be used as some of it will not be sufficiently covered to germinate.

Whether or not the crop should be fertilized will depend upon the condition of the soil. In most cases it will be profitable to use some readily soluble phosphate and perhaps a little potash. If potash is hard to get, acid phosphate alone should be applied, using about 200 pounds to the acre.

Of the varieties tested at this station in recent years, the Marvel and Marquis have proven most satisfactory. Seed of these may be obtained from practically all northern seed dealers.

Folks used to poke fun at the book farmer, but a good many of that sort who paid no attention to them have been able to poke funds into the savings bank.

Old Bob Jones says that he loves to hug the fire in cold weather, and it doesn't make his wife the least bit jealous.

How to Save $25

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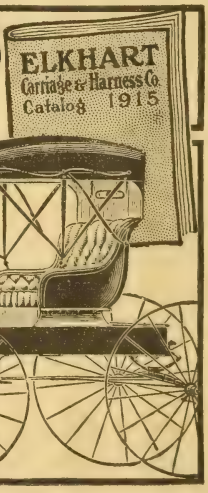

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Goodyear policy on price is to give the utmost in a tire at the lowest possible profit. Our reductions are made to that end, without ever reducing the quality.

That always means, with our matchless output, more for the money than any other maker can give.

As rubber came down our prices came down. As our output multiplied, reducing factory cost, our prices came down with it. In two years our reductions—including the present—have totaled 45 per cent.

Last year we increased our output 26.6 per cent. A few days ago the embargo on rubber was modified so that supplies seem assured. The market price for rubber seems for a time established. Fabric costs less than last year. So, under our minimum profit policy, we announce this new reduction.

Only Fair Basis

We consider profit margin on a tire the only fair price basis. We keep that margin just as low as our line allows.

While we do that, Goodyear tires will always undersell any tires that compare with them. That is because we have the largest output. We have a new factory, modernly equipped. And we have world-wide facilities for buying rubber, of our extra grade, at the lowest market price.

For a long, long time most tires have sold much above Goodyear prices. Some have sold one-third higher. A few have sold lower, as some always will, because of less rubber, less quality. But we can and do, under all conditions, give more for the money than any rival tire can offer.

The Best We Know

Goodyear Fortified Tires offer the best we know. They are built to give you the lowest cost per mile. They minimize tire trouble in five costly ways employed by no other maker. And they are always the same, regardless of price reductions.

Most tires will always sell higher, because of smaller output. Some tires will always sell lower because of lower standards. But we promise you that none will ever give better than Goodyear value.

This policy has made Goodyear the largest-selling tires in the world. It will make them more so as more men find them out.

Ask your Goodyear dealer for our new price on the size you buy.

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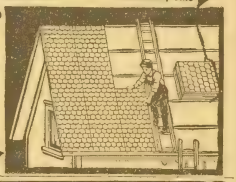

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Soils---Preparation and Cropping

Points for the Busy Farmer Gleaned From Experience and Practice

DISC HARROW IN PREPARING FOR SPRING CROPS

Every practical farmer appreciates the great value of a good sharp disc harrow in getting his spring work done. It is perhaps the most useful tool of our tillage implements in that busy season. It has long ago passed the experimental stage, and has now become a very necessary farm implement. There are various improved types of these suitable to the different tastes and needs of different farmers. The disc idea in construction is being used more and more in our grain drills and cultivating implements. That is excellent proof of their utility and thorough work. Such implements are comparatively light in draft and easy to handle in the field.

The uses of the disc harrow are varied. The disc harrow is well adapted for use on heavy clay soils, as it cuts and moves the soil deeper than other types of harrows. In preparing the seed-bed for oats the disc is a time saver, especially when seeding on stalk ground. It does a double duty then, as it cuts the stalks and also makes a mulch of the top soil. In such cases the disc is usually better than a plow, where it cuts deep enough to get a good seed-bed. The disc does not cut so deep as a plow, the seed-bed which it forms affords better capillary action, and the soil is more compact at harvest time. This latter is a very important consideration, as stalk ground, when plowed deeply, is slow to pack, and sometimes it is impossible to cut the grain with a binder if there has been much rain, as the machine then mires very easily.

The value of the disc harrow as a moisture preserver depends to some extent on the method of using the disc. If the discs are set so that they cover but a portion of the surface with dirt they leave a ridge exposed to the action of the wind and sun, and evaporation is greatly increased. By lapping half each time the ridges are partially eliminated. Cross-disking is generally resorted to for better work if there is time to spare. After disking the ground, it is advisable to harrow with a spike-tooth harrow, and if grass seed is to be sown one rolling should be given so as to leave the field in fine condition.

By cross-disking the fall and winter plowing we are able to work the soil up in good shape in preparation for the crops. Weeds are thus kept down, a mulch which will preserve moisture is formed, and the ground is reduced to an ideal seed-bed in short order. One can work up a very cloddy field with a disc harrow, when no other implement will cut the clods to pieces at such a small expenditure of time and labor. The spike-toothed harrow and roller will act as levelers after disking. A good disc is of great service, even before the ground is broken, for if a loose layer of soil is turned under capillary attraction is not broken up to such a degree.

If the spring pastures are badly frozen out, we can seed the bare patches with grass seed, cowpeas, vetch, or other forage crops, with the aid of the disc, by running it over the bare spots so as to make furrows in which to sow the seed and afterwards covering by means of a harrow. If a farmer has a

Disc harrow which gives independent action to each disc, and does the work of cross-harrowing in one operation

meadow that has been in grass too long, and is sod bound, it can be wonderfully improved by running the disc harrow over it each way. Previous to disking it is advisable to top-dress the meadow with manure, employing a spreader for the purpose.—W. F. P.

CLOVER AND GRASS CROPS

Probably the most puzzling problem on many farms this spring is that of seeding the clover and grass crops. Clover, alfalfa and timothy seeds are abnormally high, as every one who has these seeds to buy well knows. How to maintain the usual acreage of productive meadow lands with a minimum amount of these seeds is an economic problem on many farms. Every farm should have a certain proportion of the land seeded to meadows and pastures. Valuing grass for its own sake, without considering its incidental virtues as a soil builder, we would try and improve it for hay and pasture until it heads the list of our reliable, money-making crops.

On many farms it unquestionably will be profitable to cut down the acreage seeded to a minimum, as low as is consistent with real economy. By top dressing all of the old meadows that are in fair condition with manure and fertilizers, and reducing the acreage of new seeding, one can maintain the average production of hay with a minimum expense for clover and grass seeds. If, however, the land is deficient in humus, don't put off seeding it at the expense of the land. This only increases the difficulty in securing a satisfactory stand of clover and grass in the years to come. On many farms it is advisable to shift the rotation so as to get along with a minimum acreage, where it can be done without seriously interfering with the general system of crop growing and stock feeding being practiced. A few such changes are much more practicable than attempting to reduce the amount of seed sown to the acre.

In many cases the hay crop can be greatly improved by more thorough preparation of the ground before seeding. By early plowing, and harrowing several times before seeding the grain and grass crops, a fine, compact seedbed will be established. If we make the grass crop do its best work for us we must make the conditions favorable for it.

Many a farmer has neglected the grass crop on account of his soil being wet, sour, peaty, thin or otherwise unfit to produce profitable crops of clover or timothy. Under rigid business systems of farming such lands have been found just as great sources of loss as unprofitable cows in the dairy herd. No farmer can afford to pay taxes, interest, and fence idle land. If he has pride in his farming he will do his best to bring such unproductive land under a paying system of crop growing, and the easiest way to obtain these ends is to get it in shape to grow crops of clover and grass.

On many fields lime is needed to put the soil in condition to grow good crops of clover and timothy, and secure maximum benefits from the manure and fertilizing materials used. If the soil is thin, and rather deficient in humus, it is often necessary to increase the humus content before good crops of any

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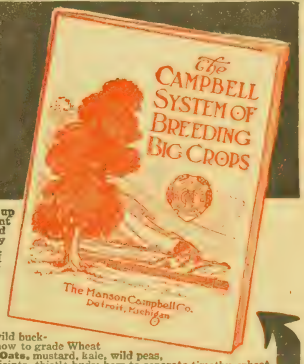

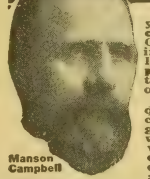

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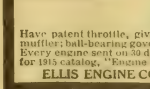

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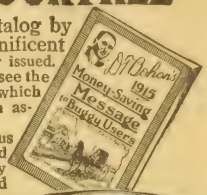

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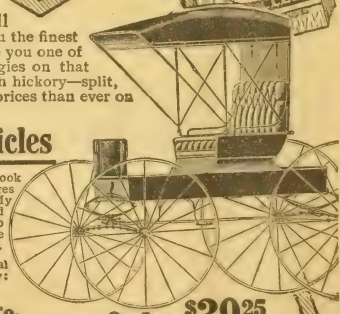

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kind can be grown. This can be accomplished by securing a growth of clover, grass or any other growth by the use of manures or fertilizers. If the drainage is not favorable the use of lime, manures and fertilizers should be delayed until it can be remedied. On well-drained land the use of these materials will soon get the field in condition to produce good crops of hay, and once we get these lands in shape to produce grasses and clovers it is a comparatively easy matter to maintain the advantage thus gained.

In seeding grass lands, it is my judgment that better and more economical results will be obtained by seeding clover and timothy mixed, and allowing the mixed hay crop to occupy the land two or more years. In this way we have a place for the farm manures where they may serve a twofold purpose: encourage the growth of more manurial substances to plow under, and act as a direct fertilizer to the crops. Clover, being the more active factor in soil improvement, will perform its function the first year, and then the timothy coming on will give us a thicker sod, a more substantial base of humus to work with in the following years. Again the hay crop is one of the best crops in this latitude, and here is where the second and third cuttings, which are largely timothy, comes in. The high price of clover and timothy seed is sure to result in a smaller acreage, and this fact, barring an unusually favorable season and a yield far above the average, which is unlikely because of the poor condition of present meadows and seeding, is sure to result in high prices for hay for the next few years. In studying the matter from any standpoint it is poor economy not to keep our meadows and seeding up to the average production of the past few years.

THE CROP TO FIT THE SOIL

There is no use trying to achieve success with a soil not fitted to the crop. We must make a more intelligent study of the selection of crops that are better adapted to our soils, and that can be made to return a fair profit. There is something interesting about the preference of certain crops for certain soils and climates. One of the first things for us to learn is to find out which crops are the best adapted to our soils and grow them on our farms. We need to study the requirements of the various crops that we grow in our crop rotations, so that each crop may be grown under the most favorable conditons. While I am a staunch friend of stable manure, and always urge the keeping of more and better farm stock, yet I can see the necessity of facing the situation in a broad-minded manner. So many farmers have reached a point where stable manure cannot supply all of the fertilizing elements required to maintain maximum productivity on their farms, that the only sensible thing to do is to buy fertilizers to supply the deficient elements.

The generality of soils on our stock farms are lacking in mineral fertility, especially phosphorus, and it is clearly to our advantage to supply this deficient element if we fit the soil to the needs of our crops. On soils possessing an abundance of humus and nitrogen we may purchase phosphoric acid in the form of raw ground phosphoric rock

and mix it with the stable manure, but on soils that are deficient in humus and nitrogen, better economical results will be obtained by the use of acid phosphate, which is more readily available for the growing crops. With clover and manure plowed under to liberate potash, and the addition of purchased phosphoric rock or acid phosphate, the fertility problem on the average stock farm where clover and other legumes are grown will be solved. On many types of soil potash will be needed, but the average stock farm in the middle west has plenty of potash locked up in its soil to produce good crops of standard farm crops for many years.

On many farms the addition of legumes to the rotation is all that is needed to bring the soil back to normal fertility. Where the legumes have ceased to thrive the use of lime will help to restore the soil conditions necessary for their growth. Lime performs quite a number of functions. It corrects soil acidity, thus stimulating the action of the bacteria which help to make plant food available, and gather nitrogen from the atmosphere. It changes dormant plant food into active plant food, by carbonating the soil water and making it a more powerful solvent. It improves the physical condition of the soil by making heavy soils lighter and loose soils more compact. On some soils it is needed as a plant food for such crops as clover and alfalfa. There is no question but what we should use lime on our soils to make them congenial to the legumes. The great question to be decided is how much we can profitably use. It is my judgment that a moderate amount, say one ton to the acre every four or five years, is better than heavy applications less frequently.

SPRING WHEAT

The increasing prices of wheat owing to the strong foreign demand is awakening a new interest among corn-belt farmers as to the advisability of sowing spring wheat in sections where winter wheat is the customary crop. Farmers in many sections of Indiana, Illinois and Ohio are seeking advice upon this subject.

The seeding of spring wheat in these states has been sadly neglected for many years, simply because the winter varieties yielded better crops. Years ago spring wheat was grown successfully over all of this territory, and there is no reason now why it cannot be grown successfully, if proper varieties are seeded and the crop sown under favorable conditions.

The main factors in getting a satisfactory stand of spring wheat are the preparation of the seed-bed and the variety selected. Spring wheat will not thrive on a poorly prepared soil. This is a matter that one cannot afford to overlook this year, when wheat for seed purposes is worth $1.50 and upward per bushel. It will not pay to put it in under slipshod methods. As to varieties one should get in touch with his experiment station for accurate information.

I have never grown this crop to any extent, but the experience of others in my locality would indicate that varieties which have proven reliable in the locality are the safest to seed. As a rule the yield will be somewhat less than is the case with the winter varieties, but the prices this year should more than make good the lesser yield per acre. Some of the farmers in northern Illinois have had excellent results with Minnesota No. 169. It produces excellent grain, and will prove exceedingly well adapted to conditions in many sections of the corn-belt states. Present indications and prices seem to warrant the sowing of spring wheat quite extensively this spring.

Maurice Costello

Famous Moving Picture Actor, says:

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Maurice Costello

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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

USE OF THE SEPARATOR

I have had considerable experience in using a cream separator, and can say that a good machine will soon return its cost in the saving of butter fat alone. Every man who has four or more good cows should have one of these machines.

Of course the machine is made for no other purpose than to extract butter fat from milk, which is done by centrifugal force. When the milk comes into the swiftly turning bowl the heavier parts are thrown to the outside of it and the cream forced to the center. An opening on the outer edge of the bowl lets the cream out. The one is discharged below the other and they are caught by different pans or other receptacles, and thus carried away.

The various kinds of separators on the market are all different and the devices are purely aids. The old-style machine had a hollow bowl and a wing soldered on to keep the milk whirling. Thus there was more or less mixing of the milk and cream, but now devices are used to prevent it. To do satisfactory work the separator must be set up right, turned at the proper speed, the milk skimmed at the proper temperature, and all parts of the machine kept in a clean sanitary condition.

The separator must be set on a solid, firm foundation. A block of wood about two feet in diameter, to which the machine may be securely fastened, makes a good solid foundation, but I like a block of concrete much better. This makes a permanent foundation, and is easier to keep clean than wood, which has a tendency to become greasy. In molding the block one should not forget to mold in four bolts for fastening the separator. With this solid foundation there is no chance for jar or vibration of the machine.

If it shakes while in operation there will be some mixing of the milk and cream, and the result will be poor skimming. The bowl of the machine must be exactly level, for if not level the separator will turn hard, and not do thorough work. A small level may be purchased for a few cents, or a temporary one can be made by filling a small glass vial nearly full with water. At frequent intervals the machine should be taken apart and the gearings carefully cleaned, for the oil has a tendency to collect dust particles, which, if not wiped off, cause the separator to turn harder. The oil cups need cleaning out occasionally, and only the best of separator oil should be used for oiling. The machine needs oiling every time it is used, and in long runs two or three times. It ought to be flushed every week with gasoline.

Thorough washing is very important. It is really more necessary to wash the machine each time it is used than it is to wash the milk pails or dinner dishes from which we eat. Dirt is removed from the milk in separating, and remains in the slime of the bowl. Hence, if the bowl is filled up with this matter, it cannot do as efficient work, either in skimming or helping to purify the milk. If the machine is not washed twice a day it should by all means be thoroughly cleaned every morning, and a pail of warm water run through at night. Lukewarm water, to which has been added some special washing powder or sal soda, is best for washing. Then all parts should be rinsed in boiling water and placed in the sun. It is well to place them in a hot oven for a few minutes to kill the bacteria.

The machine should always be run at full speed. A lesser number of revolutions of the crank per minute than that specified on the handle or in the instruction book will cause a loss of fat in the skim milk. With a little practice the proper speed and uniformity of motion can soon be learned. (See advertisement on page thirty-six.) There is a characteristic hum of the bowl that is not heard either when the speed is too low or too high.

No separator will thoroughly skim cold milk. There are no exceptions to this rule, but, of course, the loss with some machines will be greater than it is with others. The milk should be separated as soon as possible after being drawn from the cow, as a better grade of cream is obtained, and the skim milk is in better condition for the young stock. When the quantity of milk is very small the cream will not flow from the separator, and all the milk will run in one spout.

It is a good plan to run a little warm water through the bowl before turning on the milk. After the milk has been separated a quart or two of skim milk should be run through to obtain what cream would otherwise be left in the bowl.—John Underwood.

THINGS THAT COME TO THE DAIRY

A young farmer brings to his place, and permits to mingle freely with his cows, a bull which came straight from a neighborhood where foot-and-mouth disease has been prevalent. Shortly the disease breaks out among his own stock, and he loses the whole herd, besides suffering the loss of the use of his dairy for a number of months. Discouraged by the unfavorable condition of things, the young man decides that he will go out of the business and go into some other kind of work.

But while we are all sorry for the young man, does it not seem as if he might be partly to blame for the misfortune which has come upon him? Suppose, for instance, that he had been careful about introducing that bull to his herd until he was very sure the animal was free from that or any other disease? Is it reasonable to suppose that he would have escaped or not?

A farmer stables his cattle in a base-

ment that is dark, low ceilings and always poorly ventilated. The tuberculin test shows that a number of his cows are affected with the great white plague. The diseased animals are condemned, and the entire herd placed under suspicion. What if that farmer had cleaned up a bit? Suppose he had lowered the floors of his stables, so that there were not less than eight and a half or nine feet of air space above the cows. Suppose that he had put windows in the sides of his stables, not less than ten feet apart, good big windows so arranged that they would swing up either from the top or down from the bottom. Suppose he had let the air, light and sunshine into his stables, and that he had given his stock a chance to exercise out of doors every day, does anyone think he would have had an outbreak of tuberculosis among his cattle, especially if he had not bought any affected stock and brought them to his place?

Now, these are both very supposeable cases. Indeed, where is the man who does not know of cases very similar to those mentioned? And we might add a good many other troubles which come to the farmer, first or last, and in nearly every case it would be found by tracing the matter back to its source that the man himself had made a slip somewhere or other. And it is these mistakes or lapses into carelessness that cost the farmer a great part of the misfortunes which come to him.

The fact is, we are not as careful about these things as we should be. But, admitting all the while the likelihood of us all to errors of the same kind, shall we not admit that it would be better for us to think more than we do, not after the trouble has come, but always before? We know that bad stabling leads to sickness. We know that if we bring a cow to the farm from a herd that has tuberculosis or foot-and-mouth disease we will stand a chance of getting it into our own herd. We know that a poor, broken stall or floor may be the threshold to a broken leg, causing the loss of a cow or a horse. Then why not take every possible precaution against these things?

Somebody once said that eternal vigilance is the price of liberty. It is the price of everything that is worth having. We need to be all the time watchful, all the time thinking, all the time at our post of duty. This is not the easiest kind of a life for one who has been in the habit of being a little lax, but after a time it becomes a matter of habit if persisted in, and there is a lot more of peace of mind and comfort in it. In fact, watchfulness and careful oversight are great factors in working out success. There is no straighter road to the very best in dairy farming than to read, think, study and watch.—E. L. V.

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MOLD ON BUTTER

"Leaky" butter from which milky water exudes and collects in the wrapper or container furnishes the best conditions for the beginning of mold growth. From these wet areas colonies may spread to the butter itself.

Mold, the investigators find, will not grow upon the surface of a piece of butter exposed to air at ordinary humidities. The water in the butter is not sufficiently available to the mold to support the development of a colony unless evaporation is reduced by a high-moisture content of the surrounding air. In closed packages, wet or damp cellars, or carelessly packed masses, with cracks or fissures in which moisture collects, mold may seriously injure the appearance of the packages or actually induce great changes in the butter itself.

Green molds may damage normally salted butter if cracks and open spaces are left by bad packing. Other investigators have found that paraffining the tubs or boxes prevents mold on the container and the liner by preventing the escape of water which would leave the air space necessary for mold growth.

Very moderate salting prevents the appearance of the orange-yellow patches and the smudges. The green molds affect normally salted butter only when it is held under conditions of temperature or moisture that are favorable to mold growth.

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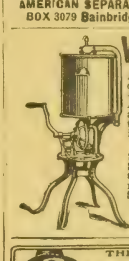

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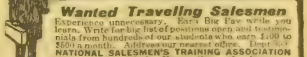

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FEEDING GROWING PIGS

Given a uniform lot of healthy, properly developed pigs at weaning time, one's first object in feeding is to obtain all of the growth possible during the next few months at the lowest possible cost. After years of study and experimenting with various farm-grown and supplemental feedstuffs I have settled down to the skim-milk, corn and green-forage system of feeding growing pigs. For the first few weeks skim-milk, undoubtedly, has a higher feeding value than any one material. However, the pigs should be encouraged, at as early an age as consistent, to eat corn and other grain foods to balance up the excessive quantities of protein in the skim-milk. By getting pigs gradually accustomed to grazing rye, alfalfa, clover, oats and peas and the like, the supply of skim-milk will suffice for a larger number of pigs, and as they develop digestive capacity to economically handle larger quantities of green forage the cost per pound of grain will be materially reduced. By replacing the skim-milk, grain or by-product feeds.

There is nothing superior to green, succulent forage crops for developing the digestive organs and insuring the health of the pigs. A system of rye, clover, alfalfa, oats and peas will keep down the charges for grain to the lowest possible notch, and result in more uniform growth than is the case when the pigs are kept in small yards and fed almost exclusively on a skim-milk and grain diet. Pigs that have the run of suitable forage crops make more satisfactory growth if fed sufficient corn to enable them to derive the most benefit from forage crops. If compelled to subsist on forage crops alone, or not properly supplemented with foods of a different character, they soon develop into pot-bellied, unthrifty animals that cannot economically convert corn into pork when they go into the feedlots to be finished for market. If fed large quantities of protein feeds in an effort to supply their systems with the deficient carbohydrates they acquire a habit of waste. That is, their digestive system becomes so deranged that they lose the capacity to make proper use of a separately. If corn is fed the difficulty balanced ration. On the other hand, pigs fed on a ration containing an excess of the fat-producing elements will put on too much fat, and cease to make profitable gains at the time when they should be returning the most profit for the quantity of food consumed.

In making up rotations for pigs, from the time they are two months old until they have become accustomed to consuming considerable green forage, they seem to make more uniform gains when the skim-milk and grain is fed in the form of a thick slop. By mixing the dry feed with the skim-milk and water in proper proportions, one prevents the pigs from eating an excess of one kind of feed and leaving an excess of the other kind for those that are unable to obtain a proper amount of the entire quantity when the materials are fed may be overcome by shelling and spreading the kernels in the yards or pastures.

Sextette of Berkshire Gilts at feeding trough, on concrete floor

Another important factor in obtaining maximum results from the quantity of food consumed is that of supplying the pigs with sufficient quantities of mineral elements. So long as they have the run of pasture and forage crops, which are usually rich in these elements, they will make good gains with no supply from outside. But if they are confined in small yards it is very important that they have access to salt, ground limestone, bonemeal, ashes and charcoal. As a rule, better results will be obtained by feeding the materials in the boxes without mixing, so that each pig can use its preference and not be forced to eat an excess of one element in order to supply its needs for others.

A vast amount of feed is worse than wasted because the pigs do not get sufficient water to aid in digestion and assimilation of feeds, and because there cannot be, for any considerable length of time, a healthful or complete elimination of unassimilated foods from the digestive tract without sufficient water to assist in the processes of digestion and elimination. The average feeder does not properly appreciate the high value of pure water always at hand to meet the cravings of the animal subsisting on

dry feed. When the pigs have access to succulent grasses, clover, alfalfa and the like, they will eat of these after a feed of grain, and if there is a shortage of the supply of water along with the dry grain the more succulent feed will be consumed. Withholding water may be the means of making the pigs eat more green feed. The extra use of green feed not only helps to balance the ration, so far as shortage of protein in corn goes, but also the shortage of water, because such green feed contains from 80 to 90 per cent water. If one neglects to supply a properly balanced ration, as needed to maintain the health and normal functions of the animal, then the animal craves the wanting feed constituent, be it water or a feed carrying more protein, or a shortage of salt or ashes or charcoal, or what we call correctives. The animal is not likely to go far wrong in following its natural cravings, and so far as water is concerned, it is safe to let the pig decide when he wants it and how much. The regular and complete elimination of foods eaten wisely or unwisely is the road to perfect health, and the healthy pig is the one that assimilates the largest percentage of the food it eats. Many feeders who withhold water, so that the pigs will consume larger quantities of food, lose sight of the importance of elimination of the unassimilated or impartially digested feed that should pass away to insure the highest degree of health, or in other words, to permit the largest percentage of assimilation, which precedes the largest gain per pound of feed eaten. Neither the hungry or thirsty pig is capable of making maximum gains from their rations.

LIVESTOCK IN THE BLUE GRASS REGION OF KENTUCKY

In many counties of the bluegrass region of Kentucky the principal stock enterprises are steers, hogs and sheep. In Madison County, Ky., an average of 50 steers, 75 hogs, and 25 lambs per farm were sold during the year from about 60 farms averaging 400 acres each, says the United States Department of Agriculture. In this region steers remain on the farm about a year. They are "roughed through" the winter and are fattened on the bluegrass pastures in the summer and sold in the fall. Pigs are farrowed in April and September and marketed in June, October and November.

The fall pigs follow steers during the winter with additional rations of about 143 pounds of grain per hog. They pasture on clover and rye in the spring with about 312 pounds of grain per hog for about sixty days before marketing. The spring pigs marketed in the fall are pastured during the spring and summer with additional rations, and for about thirty to sixty days before marketing are fed full rations of new corn. These summer hogs get in all about 650 pounds of grain. In addition to the grain ration given, the hogs pasture on green rye and clover and in a few cases field peas.

On some farms sheep are on pasture practically the year around, but as a rule are fed on dry rations for a short period in the winter. Winter grains begin to furnish pasture about March 1. The sheep pasture on this until about the middle of April, when they may begin on the blue grass.

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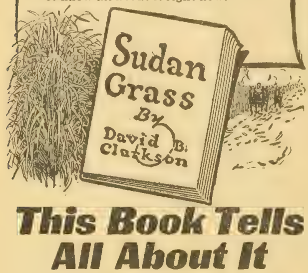

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Don't Start Wrong! —Don't commence growing Sudan Grass until you know how to secure, grow and keep seed pure, how and when to plant, where and on what kind of soil it will grow, how to cultivate and harvest for hay and seed, how to thresh, and all other particulars. My book tells you everything.

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This book may prove to be worth thousands of dollars to you. I want every American Farmer to know all I know about Sudan Grass. Merely send your name and address, with 10c, to show that you are seriously interested, and I will send you this book postpaid. Send 5 two-cent stamps or a 10-cent piece. Address P. O. Box 192.

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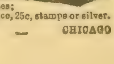

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Crops depend upon the preparation of the ground to receive them as much as they do upon the nature of the soil. Soils that are naturally poor frequently yield a larger crop than superior soils, because they have been given better tillage. All soils may be greatly improved by tillage. I believe that the value of the farm products of the country could be more than doubled during the next ten years by a more intense system of culture.

Plowing is the foundation of farming. I believe that we are plowing too shallow to get the best results, but deepening of the soil should be gradual, for turning up too large quantities of subsoil, and turning the organic matter so deep that the air, heat and moisture cannot act favorably upon it, has ruined the productivity of many soils for years.

Farm crops are greatly benefited by deep seed-beds. On well-drained soil deep plowing is beneficial during both wet and dry seasons. In wet seasons surplus water is carried down below the root zone, and the crop is less injured than if the water is held near the surface. On wet soils shallow plowing is always preferable, it keeps the water near the surface where it runs off or is evaporated.

Deep soil has greater crop-producing capacity than shallow soil, even if both are alike in physical, biological and chemical conditions. It has a greater moisture-holding capacity during droughts. Soil nine inches deep will hold twice as much water as soil six inches deep. Deep soil furnishes ideal conditions for plant roots to go down after food and moisture. Fertilizers should be well mixed the full depth of the soil, to keep the plant roots down where they belong.

Loose and friable soils are benefited by fall plowing for spring crops, but stiff clay soil, that puddles and bakes, should not be plowed until spring.

Soil for spring planting should be plowed early, if organic matter is plowed under. The advantage gained by early plowing is the fact that soil turns up loose and friable, a better furrow is turned with less labor for the man and teams, and the organic matter has more time to decompose and become available to nourish the succeeding crop.

If the soil freezes after it is plowed, it is better prepared for a more perfect pulverization when fitting it for the crop, an important thing to consider in early planting, as it gives us an opportunity to destroy many weeds by harrowing before planting the crop. More soil moisture accumulates and is stored for use in time of drought.

Stubble land, and land occupied by hoe crops the previous season, should be planted as soon as it is plowed, but sod ground, that is to be planted to a hoed crop, is benefited by early plowing, and tillage for a few weeks before planting time.

The first thing to do after plowing is to level the clods and lumps with a roller, so the disc can cut and pulverize them, and the other implements manipulate and refine the soil until a good seed-bed is established. For small spring grains a compact seed-bed is essential, especially if grass seed is sown with the grain.

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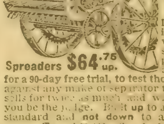

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Soil will not be made too compact if kept harrowed as fast as it is plowed.

Every time it is harrowed will be doubly repaid in the yield of grain. In preparing corn ground much of the work of cultivation is avoided if the soil is brought to the best possible physical condition before planting. The corn field should be level, compact and smooth, especially if a check-row planter is used, for there is no check-row planter made that can do good work on a rough, poorly fitted soil.

SUDAN GRASS

By David B. Clarkson

One of the newest things in American agriculture is Sudan Grass. Five years ago a spoonful of the seed of this crop was brought to the United States from Sudan, but it has only been recently that the general public has learned much of it. Since the publication, a short time ago, of a rather exhaustive and highly commendatory bulletin on Sudan Grass by the United States Department of Agriculture interest has greatly increased.

It has entirely passed the experimental stage, and has shown itself worthy of a place among the great staple crops of this country. From bulletins issued by the Department of Agriculture of the United States, and by experimental stations in various states, the following facts regarding Sudan Grass may be stated with authority:

It is the progenitor of the sorgum family. In appearance it resembles Johnson Grass, but it lacks the root stalks and therefore never can become a pest. It is the equal, if not the superior, of all other forage crops in feeding value. It has a special value as a drouth resistant. It possesses remarkable virility and will grow and thrive in the face of the most adverse circumstances. On dairy farms it can be fed as a substitute for alfalfa, without a loss in tonnage. It has been shown that this method of dairy farming has resulted in better health for the animals, on account of the greater variety of food.

It can be grown in all sections of the United States, excepting where the altitude is very high or where the climate is exceedingly humid. It has been experimented with successfully as far north as Alberta. On account of its rapid growth, it probably has no superior as a catch crop. From seeding to the first crop seventy-five to eighty days are necessary. The second cutting comes on about forty-five days after the first, and the third is likely to take a little longer, fifty to fifty-five days. In the extreme south as many as four cuttings a season have been secured. While particularly suited for semi-arid districts, Sudan Grass has grown in Colorado within fifteen miles of eternal snow. It is successfully cultivated there at an altitude of from seven to eight thousand feet. From two to four pounds are necessary to seed an acre. Each seed will produce at least one hundred stalks. Sudan Grass yields an average of three Hundred pounds of seed to the acre.

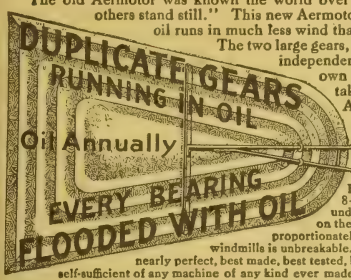
Sudan Grass fits well into most any crop rotation or cropping system practiced in this country. Planted in the spring it produces from two to four crops and is killed by the first freeze of winter. It makes intensive farming an easy possibility where it has hitherto not been practiced. It thus increases the possibilities of this country for a large population. It produces an average of possibly four tons of hay to the acre.

At $10.00 a ton Sudan Hay will be worth considerably more to the farmer, acre to acre, than cotton at 12 cents a pound. In the irrigated sections of the West, where alfalfa is depended upon as the chief feed for dairy cattle, the need of a nutritious grass hay is felt.

THE AUTO-OILED AERMOTOR WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. The gear case, in which the duplicate gears run, holds two or three times as much oil as is required by the mill for a year of constant running, days, nights and Sundays. From the gear case the oil flows through every bearing in a continual stream. It goes out through the thrust washers in the hub of the wheel and is automatically returned to be used over and over again. No oil is wasted. This mill needs oiling but once a year. Two quarts of oil in the gear case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more.

The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. The old Aermotor was known the world over as "the windmill which runs when all others stand still." This new Aermotor with gears and bearings flooded with oil runs in much less wind than the old Aermotor.



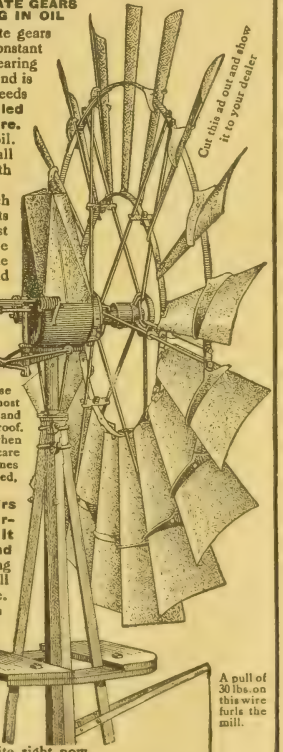
The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The Auto-oiled Aermotor, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable.

Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when he wheel is furled. A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; or, if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. The Auto-oiled Aermotor makes all this possible as it can run from one year's end to another with practically no wear and no cost. Water costs nothing. Use it. To let it stand is to abuse it.



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Advance Spring Styles

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Send all orders for patterns to FARM NEWS, Pattern Department, Springfield, Ohio.

Description of Patterns Shown Above

No. 7111—Ladies' Waist—Overblouse effect, although all in one. The sleeves, which are plain and full length are cut in one with the side body and the front and back form panels with a tuck where joined to the sides. Patterns cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

No. 7110—Boys' Russian Suit—Blouse closes in front, with the neck opened and trimmed with a wide sailor collar. The trousers are opened at the sides and may have a straight lower edge or bloomer finish. Pattern cut in sizes 2, 4 and 6 years. Price, 10 cents.

No. 6988—Misses' Dress—Waist is plain, closing in front with open neck and small, roll collar. The three gore skirt is attached to a deep yoke. Pattern cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

No. 7127—Misses' and Small Women's Dresses—Plain waist with front closing, the neck somewhat open. Pattern cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

No. 7132—Girls' Dress—Waist closes in front, with plain open neck or with wide collar. The two piece skirt has a reversed box plait at each side. Pattern cut in sizes 6, 8, 10, 12 and 14 years. Price, 10 cents.

No. 7106—Ladies' Dressing Sacque—The closing is in front, the neck trimmed with a pretty square collar and the sleeves are of the new bishop style. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

No. 7028—Ladies' Dress—The dress can be made with either the long or short sleeves. The three gored skirt can have either the high or regulation waistline. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

No. 6997—Child's Rompers—The front and the bloomers cut in one piece. The waist in the back is separate and has the closing down the centre. Pattern cut in sizes 2, 4, 6 and 8 years. Price, 10 cents.

No. 7129—Misses' Envelope Combination—This combination consists of chemise and drawers in one. The garment has the straight, sacque chemise cut. Pattern cut in sizes 14, 16 and 18 years. Price, 10 cents.

No. 7034—Girls' Dress—Waist with large side bodies cut in one with the sleeve. The skirt is attached to this waist and has three gores. The tunic is entirely separate and closes at the shoulders. Pattern cut in sizes 6, 8, 10, 12 and 14 years. Price, 10 cents.

No. 7107—Ladies' Dress—Ornamental closing, and an open neck with small sailor collar. The four gore skirt is attached to the blouse. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

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SHRUBS FOR THE FARM LAWN

Hardy Shrubs Requiring Little Care Add Much to Appearance

By Charles H. Chesley

SHRUBS should play an important part in the adornment of the farm lawn and yard. A few hardy bushes along the borders or drives, with a group here and there, will add much to the beauty of the lawn. Shrubs require comparatively little attention, yet a little care once or twice a year will well repay in added beauty.

The lilac is found around many homes. In fact it is the commonest of shrubs. None better deserves its place at the head of the list, but those who are acquainted only with the old varieties—the purple and the white—have a perfect revelation in store for them in some of the newer forms. Of these the Persian is one of the best. The lilacs will grow in almost any soil and any locality. For groups or single specimens, there is nothing to take its place.

The mock drange is a popular shrub—one of the best to furnish flowers for cutting. Unlike many sorts, it will do well if planted in partial shade or on the north side of a building. The deutzia gives an abundance of white or rose-tinted flowers. It blossoms the latter part of June, and forms a connecting link between the early and the late bloomers. There are several varieties of this and the mock orange. The deutzia makes a better impression as a single specimen or solid mass. Little pruning is desirable, so that the blossoms may completely cover the bush from the ground up.

Of the early bloomers there is nothing that can take the place of the snowball. The immense heads of pure white or cream-tinted flowers makes of this shrub one of the best for single specimens on the lawn. It is well to give the snowball a richly-fertilized spot, else sometimes the great panicles of bloom are not held upright. Some of the spiraeas are excellent for planting in masses. Of these the varieties from Japan are the most popular.

A little study of the catalogs of some reliable nurserymen will give one many ideas as to what to plant. Thus the flowering season of shrubs, beginning early in May, may be kept open until frost kills the blooms of the althaea in the fall.

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Isn't it a relief and a genuine pleasure to **know** you are sharing the season's biggest money-saving opportunities—that you are "cutting your clothing costs" fully one-third? And, what a satisfaction to **know** that you and your family are dressing in the latest, prettiest styles! The **"Standard" Bargain Bulletins** are issued every two months and the newest styles are offered in each issue. But first, fill out the coupon at the side—mail it to us today for the **FREE** new "Standard" Spring Bulletin. Send coupon (or postal card) at once **NOW**, so you can receive the new Bulletin promptly and save money on your next purchase. Remember, it's **FREE**

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All-Wool Serge $2.00

Best Skirt Bargain

of the Season
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Also Stout Sizes NS269

NS200 — Handsome new circular skirt. A remarkable bargain, guaranteed to save you at least $1.00. Made of beautiful quality, durable **All-Wool double-warp Serge** in black, navy, gray, tan or cream. The fashionable deep yoke is smartly trimmed with button-trimmed patch pocket and a single fold with satin buttons tastefully finishes the front. Hooks at side. (Sizes 22 to 30-in. waists and 37 to 43-in lengths.) Special postpaid in U. S. **$2**

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Stylish circular-effect Poplin $1.59 Dress

NDD159 $1.59

Special bargain price—
NDD159—This dress would cost elsewhere from $2.50 to $3.00. A typical "Standard" bargain, combining exceptional value with good quality and new, charming style. Of serviceable, pretty **Poplin** in navy, Copenhagen blue or the stylish sand color. Becoming bodice, correctly bloused and fashioned with yoke in front. The laid-down collar is of dainty white organdie, finished at neck with fine shadow lace to match the frills on sleeves. A broad (detachable) girdle, with contrasting applique embroidery attractively heads the full, circular-model skirt. A fold finishes the back and the front closing is concealed by a button-trimmed fold. (Ladies' sizes 34 to 46 Bust; Misses' sizes 14 to 18 yrs.) Our bargain price, Postpaid in the U. S. **$1.59**

Women's Union Suits 29c

NQ29—A big saving in good quality, serviceable union suits for women. Of full-bleached cotton yarn in fine, seamless elastic rib and full-cut throughout. Daintily lace-trimmed. (*Sizes 32 to 44 Bust.*) Our bargain price, **3 for 79 cents**, or each, Postpaid in the U. S. - **29c**

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N3R89 — Cute play dress for children 2 to 6 years. Roomy, becoming kimona cut, made of serviceable, washable **Linene** in tan, blue and white. The neck and sleeves are prettily edged with scalloped, contrasting embroidery and embroidery smartly trims front and belt. Practical good-wearing dresses at a special bargain price. Postpaid in the U. S. **3 for 89c**

Wonder-Value Dress Offer!

N3R139—Here's positively an unmatchable bargain. Three beautifully made dresses of good, serviceable materials—a splendid $2.25 value for $1.39. One dress is a clever guimpe effect of embroidered blue **Linene** and blue plaid **Gingham**. The other two are charming tunic models of blue striped **Percale** and tan **Linene**, tastefully trimmed and with novel pleated skirts. (Sizes 7 to 15 yrs.) Our special bargain price, 3 - Postpaid in the U. S. - **3 for $1.39**

Embroidery Trimmed Brassieres, 2 for 25c

27025—Pretty embroidery-trimmed brassieres of serviceable quality. Correctly modelled and provided with corset catch. (32 to 44 Bust.) Postpaid in the U. S. - - - - **2 for 25c**

3E119—Remarkable petticoat offer. All three are of good **Cambric**, correctly fashioned and attractively trimmed with deep assorted embroidery flounces. (Sizes 38 to 44-in. lengths.) Postpaid in the U. S. **3 for $1.19**

Standard Mail Order Co.

Dept. 142, New York City

Raise More Chickens For Profit You can do it this year easier than ever—send for 1915 offer on Cyphers built incubators—8 sizes—popular prices—$10 and up. The

Cyphers Company

name stands for 18 years of service for poultry raisers. You can succeed with the help of our experts. Write for "The Profits in Poultry Keeping," our 200 page catalog and other valuable free priced matter. Address our nearest office.

3 Styles
8 Sizes

Cyphers Incubator Co.
Dept 130 Buffalo, N.Y.
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Prize Winning BlackSpanish

The Greatest Layers of Big White Eggs

The more you know about them the more you will want them. Their striking appearance and wonderful laying qualities make everyone sit up and take notice. Demand exceeds supply. *Eggs from my Blue Ribbon Winners* $3 and $5 per 15. Few choice birds for sale at bargain prices. Book your order now so you will not be disappointed. Satisfaction guaranteed.

E. F. ALDEN, Linden St., Winnetka, Ill.

112-PAGE POULTRY BOOK FREE

If you are thinking of buying an insurable incubator or brooder you should get our big 1915 catalog. It tells all about the new 1915 improvements on (16)

PRAIRIE STATE Incubators and Brooders

Also contains about 60 pages of poultry success secrets—how to feed, rear and breed; treat diseases, erect poultry buildings, grow winter feed, etc. Most practical book ever offered FREE. Write for it TODAY.

Prairie State Incubator Co., 702 Main St., Homer City, Pa.

57 BREEDS Fine pure bred chickens, ducks, geese and turkeys. Northern raised, hardy and very beautiful. Fowls, eggs and incubators at low prices. America's greatest poultry farm. Send 4c for fine 100-page 21st Annual Poultry Book.

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WE PAY $80 A MONTH SALARY

and furnish rig and all expenses to introduce our guaranted poultry and stock powders. Address BIGLER COMPANY, X319 SPRINGFIELD, ILLINOIS

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and calendar of pure bred poultry; 70 varieties illustrated and described, many in natural colors. A perfect guide to poultry raisers—full of facts. Low prices on stock and eggs for hatching. Incubators and brooders. 22 years in business. You need this noted book. Send 10c for it—today.

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SUCCESS WITH POULTRY. Our book on how to feed for profit has description of Poultry Houses and Plans; pictures of our farms and fowls. It is worth dollars to you. Sent for ten cents cash or stamps. We are the largest breeders of poultry in the world

United Poultry Farms, Box 33, Hope, Ind.

50 Varieties Chickens; Bronze, White Holland, Bourbon Red turkeys; Toulouse, Embden, African, China geese; Pekin, Rouen, Muscovy, Indian Runner ducks; Bantams; Guineas; Incubators and Brooders. Catalog 2 cents.

Theodore Franz, Box 85, Mankato, Minn.

Latest Book "Profitable Poultry," finest published; 144 pages; 210 beautiful pictures; complete volume, how to succeed with Poultry; describes busy Poultry Farm with 55 varieties of pure-bred birds. Gives lowest prices on fowls, eggs, incubators, grain sprouters, etc. This book 5 cents.

Berry's Poultry Farm, Box 36, Clarinda, Iowa

Money Making Poultry

Our specialty. Leading varieties pure bred chickens, turkeys, ducks and geese. Prize winners. Best stock and eggs. Lowest prices. FREE. **H. M. JONES CO., Box 81, Des Moines, Iowa.**

58 Breeds Fine Pure-Bred Chickens, Ducks, Geese, Turkeys, Guineas, Stock and Eggs at low prices. America's finest Poultry Farm. 8000 prizes. Largest Catalog 4c. **A. A. ZIEMER, BOX 17, AUSTIN, MINNESOTA**

60 Varieties CHICKENS, DUCKS, GEESE, TURKEYS, GUINEAS and HARES. Stock and eggs. 60 page catalogue free. **H. A. Souder, Box 25, Sellersville, Pa.**

64 Varieties Poultry, Hares, Stock and Eggs for hatching at reasonable prices. Val. desc. Catalog free. H. D. ROTH, BOX 14, SOUDERTON, PENNSYLVANIA

FINE CATALOG 6c. All varieties fine Poultry, Turkeys, Geese, Ducks, Guineas, Bantams, Hares, Dogs, Stock, Eggs. Circular free. *Pioneer Farm*, Telford, Pa.

WE PAY $36 A WEEK AND EXPENSES TO men with rigs to introduce poultry compound. Year's contract. IMPERIAL MFG. CO., DEPT. 14 PARSONS, KANS.

POULTRY

Linseed meal is very rich in albumen.

Bulky food serves to promote digestion and health.

Milk in any form is good for both old and young stock.

There is more nutriment in white oats than black.

Disease lurks in filthy drinking water and dirty vessels.

Too highly stimulating food is apt to cause liver troubles.

Millet seed contains considerable flesh-forming substance.

Bran is a good laxative food, especially for young stock.

An excess of animal food is apt to cause digestive troubles.

It is claimed that carrots improve the color of the yolk of the egg.

Grow mangels. They make excellent green food for winter feeding.

Overfeeding of oatmeal is apt to cause looseness of the bowels.

Damaged wheat or screenings, full of cockle, are poor and dangerous foods.

Roots of all kinds can be fed cooked or raw, but they should be chopped fine.

Steamed or cooked oats are not only relished by the hens, but prove to be a valuable egg food.

It is claimed that there is more bone-and-muscle substance in barley than there is in wheat.

There is not so much of the fattening property in white corn as there is in the yellow variety.

You can make no better addition to the mash than waste bread, crackers or cakes ground to a powder.

In Australia they advocate boiling millet seed until quite soft, and feed it mixed with the morning mash.

It is claimed that the black streak on the beak of the duck is an indication of it being in laying condition.

We are opposed to feeding horse meat to fowls. The meat from a healthy horse, killed on account of some accident, is no doubt safe, but the bulk of horse meat comes from horses that have died or been killed on account of some ailment.

Common field peas contain a large amount of nitrogenous substances, consequently making an excellent egg-producing food.

The most notable growth of the duckling is between the third and fourth week of its age, when it often doubles its weight.

There is no breed that recommends itself so highly for the town lot as the Light Brahma, on account of its peaceful nature.

The most successful poultry farms are those who confine their operations to not more than three varieties of fowls, some of them having only one.

A mixture made of one part spirits of turpentine with four parts sweet oil, is recommended for rattling in the throat. Administer ten drops daily.

The Pekin duck is of Chinese origin. Like the Aylesbury, it is a white-plumaged duck, and the legs are set far back, giving them an upright carriage.

While oyster shells are necessary in poultry diet, they must not be given with the idea of taking the place of grit. They are too soft for that purpose.

Green cut bone being highly concentrated must not be fed too liberally. Overfeeding of green bone is apt to produce leg troubles, diarrhoea, bowel complaints and worms.

White Wyandottes for broilers and winter eggs; Light Brahmas for roasters and winter eggs; and White Leghorns for summer eggs, make a good combination for a large farm.

In eastern and middle states about all of insect life that will bother the poultry are some forms of lice; but south, besides the lice there are chiggers and fleas to worry them.

There must be meat in some form in the daily bill of fare of laying and growing stock. But that amount should not exceed over 25 per cent of the total amount of feed fed. Too much meat and bone produces laxity of the bowels, impairs the indigestive organs, and often results in soft-shelled, thin-shelled and infertile eggs.

Tells why chicks die

E. J. Reefer, the poultry expert of 698 Main St., Kansas City, Mo., is giving away free a valuable book entitled "White Diarrhoea and How to Cure It." This book contains scientific facts on white diarrhoea and tells how to prepare a simple home solution that cures this terrible disease over night and actually raises 95 per cent of every hatch. All poultry raisers should certainly write Mr. Reefer for one of these valuable FREE books.

It is claimed that pumpkins or squash in the mash causes growth of young stock, the combs redden, and the plumage assumes that brilliancy and gloss which denotes perfect health.

The Aylesbury duck derives its name from the Vale of Aylesbury. It best suits the English market. It is long in body, deep in keel, and the legs are placed a little behind the center of the body.

Ducks are subject to very few diseases. They do not have cholera, roup, gapes, but they do occasionally die from spinal meningitis and paralysis. Cold water is the general cause of cramps in young ducks.

Some poultrymen believe in feeding small squashes to give body or bulk to the mashes. They say that this resulting mixture is found very satisfactory, and seems to be particularly palatable not only for fowls, but also for dogs and cats.

RAISES FOR FANCIERS

By Augusta C. Dowell, Ohio.

A pen of White Plymouth Rocks, just utility birds from a prominent breeder, was my start. Every well-shaped egg was set under setting hens bought from neighbors. One setter took care of the chicks that two hens hatched. The other hen accommodated another setting of eggs. The chicks were fed oatmeal and milk, while water was before them at all times.

At the end of the first season I had a fair-sized flock, but phoned for the dealer and culled them down to twenty pullets, and one male. Reserving the original male, I sent ten dollars and got a new male, specifying I wanted to breed for weight. When the poultry show opened I exhibited one pen and won third on male and first on pullet in the home town.

The second season I made arrangements with a prominent breeder and exhibitor to hatch and farm raise birds for him, he to furnish eggs. All superior birds at maturity were to be his at three cents a pound over market price when he came for them, all inferior ones were to be mine. Just before the Chicago show he took what he wished, leaving me a nice lot of big-boned white-to-the-skin birds. This gave me the new blood for the coming year, and, as among the birds that he took there were several prize winners at Chicago, this gave me prestige among my neighbors, and resulted in several sales of rejected birds at five to seven dollars. Again I culled, keeping the best.

In the spring I advertised and sold settings for $3.50 for fifteen. I was very careful to send fresh, well-shaped eggs and strove to satisfy my customers.

All that I did not sell were set at home, and, as I live on a main road, the birds advertised themselves to the passersby. Fanciers go through the flock and take any bird they desire—never asking me to cut prices. I simply raise all that I can, knowing that it is only the occasional bird that will meet the showman's approval. The rest go the direct route to the market, their plump, well-developed bodies and yellow skin making them welcome by the consumers.

Startling Incubator Offer!

We want every reader of this paper to write at once for our new sensational low price offer on the most wonderful incubator ever built. Think of it! A metal-covered, fire-proof, sanitary, guaranteed incubator at a price below the old style wooden ones.

RUSH THIS COUPON TODAY for New Boook, "Poultry Notes," and learn about the most astounding incubator offer ever put before the public. Don't wait! You may never see this ad again and this offer is good for a short time only. The Famous National Incubator is a revelation to the Poultry world. It is the perfection of years of study and effort. It will hatch every fertile egg. It won't warp or leak. It will still be working when others are in the junk heap. It's many distinctive features are a wonderful surprise to poultry raisers from coast to coast.

Clip and Mail Today—Sure

Name.....

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Please send me your new Book "Poultry Notes" and full particulars about your Sensational Incubator Offer.

(1865) National Incubator Co. 1818 St. Racine, Wis.

10 YEAR Guarantee

We Prepay Freight East of Denver.

New 1915 Model 165 Egg National Incubator

And Our Ironclad Guarantee

This Wonderful Incubator is built after U. S. Gov't Specifications. Our exceptionally low price has startled the Poultry World. We have raised poultry for years. We have built thousands of incubators, but never in the history of our company have we offered such a bargain. We are mighty proud of this incubator. We have just what you want and we know it. Learn all about it at once. Don't buy an incubator at any price until you get full particulars about our remarkable offer.

Free Book Every poultry raiser, whether you raise 10 or 10,000 chickens, should have our NEW BOOK "POULTRY NOTES." Get this book and our 1915 Sensational Offer now. Clip and sign coupon or send your name and address on a postal today—sure. This is the greatest opportunity you will ever have.

Be Sure to sign coupon today.

National Incubator Co.
1865—18th St., Racine, Wis.

WE WANT 500 MORE AGENTS

AT $25 TO $45 A WEEK

Experience unnecessary—we'll teach you the business—and how to make more a week than most men make a month—assign you exclusive territory and give you a big start. Mautler made $68 clear profit first ten hours. Fitter sold $4 in 3 days. Brandt sold 36 first week. Brewer sold 25 in one day.

Anyone Should Make $1500 a Year

This new Improved "Easy" self-heating flat-iron is right—nothing like it invented—nothing so simple—price low—sells quick—profit big—possibilities unlimited—guaranteed. Every woman buys—can't help it—saves her steps, time, trouble and fuel—pays for itself in a little while.

This marvelous new invention—this wonderful flat-iron has a seamless tank—joints brazed—burns without odor—flat bottom burner, throws heat downward—no generating tube to clog—simple—easily cleaned. It's a business that makes you independent—gives you a local prestige and plenty of ready money. Write Quick for FREE Sample Offer.

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ALL THESE FREE

Gold plated Locket set with sparkling stone and 22-inch chain, one Nethersole Bracelet to fit any arm and these 4 gold plated Rings ALL GIVEN FREE for selling only 12 pieces of our Jewelry at 10c each. Write for Jewelry today.

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Perfect Hearing

in the HOLLOW *of* YOUR HAND

Are you deaf or hard of hearing? Hear the great news! At last science has conquered your affliction. For the first time perfect hearing is within your reach. No matter how deaf you are, the wonderful **Improved Mears Ear Phone** enables you to hear distinctly. You can hear clearly any sound, any time, anywhere. See it, hear it, learn about it, test it, try it, the remarkable

FREE TRIAL

New 1915 Thin Receiver Model MEARS Ear Phone

The final triumph of the first successful multi-tone ear phone. **96 degrees of sound!** It enables the ear to receive every shade of sound. A touch of the finger adjusts it. The new, thin receiver model enables you to hear sermons, lectures, plays and every form of conversation. The new model doubles the perfection of the old one, marvelous as that was. Eight octaves of tone distributing 96 shades of sound, making them as distinct to the deaf as shades of color to perfect eyes.

96 Degrees of Sound The new model brings new life to the afflicted. It puts the user into the stir of the world, and restores that contact with affairs essential to success. Self-consciousness that hurts vanishes, and the confidence that comes with fitness is restored.

SPECIAL INTRODUCTORY OFFER

If you write at once we will make you our lowest net price direct from our laboratory to you—an offer that saves you all middlemen's profits. But don't make up your mind to keep the instrument on any terms until you have first tested and tried it thoroughly at our risk. Then, if you are satisfied, you can pay the laboratory price in small monthly payments if desired. Don't miss this opportunity. Take advantage of it today. Already more than 60,000 Mears Ear Phones have been sold.

Don't Do This

You don't need to any longer. Don't tax your own and others' patience by having to ask, "What's that? What did you say?" Hear the first time. The new Mears makes it possible. To hear what is said, or any other sound, you only have to listen.

FREE TRIAL For 15 Days. Every Mears Ear Phone is sold only on free trial. Let us send you one. Test this wonderful instrument on your own ears, under any conditions of service for 15 days at our expense. Nothing to pay for the trial. The Mears Ear Phone must give absolute satisfaction or we insist on taking it back.

6 Wall Street, New York, N. Y.
November 10, 1912

Mears Ear Phone Co.
Gentlemen:—
For twenty years I was very hard of hearing. I have tried many different hearing devices, telephonic and others, but without satisfaction. About two years ago I learned of your ear phone. I tried it and bought one, wearing it on my right ear in which I had ceased to hear even thunder. I have used it ever since and nothing would induce me to part with it. My hearing is so greatly improved from its use that I have hopes of a complete recovery.
Yours sincerely, John D. Bell.

Chestnut Hill, Philadelphia, Pa.
November 1, 1912

The Mears Ear Phone Co.
Gentlemen:—
I had a man in my store Monday who is 62 years of age and very deaf. I put the phone to his ear and he said it was the first time in 26 years that he had heard a watch tick. I will do all in my power to advertise your wonderful phone.
Yours truly, F. A. Warner.

Send the Coupon Now For FREE Mears Book

The Mears Ear Phone Book explains all the causes of deafness; tells how to stop the progress of the malady and how to treat it. Send the coupon at once for Free Book and our great Special Introductory Offer. Send for it at once.

Mears Ear Phone Co.
Dept 3563 45 West 34th Street
New York City, N. Y.

Mears Ear Phone Co.
Dept 3563 45 W. 34th Street
New York, N. Y.

Gentlemen: Please mail me free and postpaid, your Mears Ear Phone Booklet and particulars of your Special Introductory Offer, your new model Eight-Tone Mears Ear Phone and Free Trial Offer.

Name.....

Address.....

CONTROL OF TURKEYS

Nearly every breed of turkey will roam far in search of a nest, and once having begun the habit it is next to impossible to break them of it. One of the best plans to break them of this habit, or start them aright, rather, is to keep them in a fenced-in plot until past time for laying. Barrels or A coops should be provided, with plenty of good nesting material, within this enclosure. This enclosure should also contain the turkey house, as turkeys should never be allowed to roost with chickens. The gate to this enclosure should never be opened until nearly noon. By this time the turkey hen will be done laying, and ready to go on her tramp.

By watching closely one can tell when the turkey hen is wanting to nest. She will give a funny little "Quirk, quirk," entirely different from any other sound she makes, and will run up and down the fence, shunning the rest of the flock as she does it. Though she could easily get away, she does not try for awhile, but when she starts she is just as likely to go a mile away as a few rods.

The best plan is to make her lay at the very first where her eggs can be gathered every day. After the weather gets warm, if the nest can be watched, it helps the egg fertility for the hen to warm them up each day.—I. M. S.

FEED PLENTY OF SOUR MILK

Our experiments last year with feeding sour milk and fresh-churned buttermilk to the young chicks, proved that fresh sour milk, if fed clean, is a wholesome food for young chicks at any age. It wards off bowel troubles, and is especially good to prevent white diarrhea.

RAINS KILLS YOUNG DUCKS AND GEESE

Getting the body wet in spring or early summer will generally kill a young duck or gosling. Dampness will give them rheumatism and cold, and cold will bring on sore eyes. A young duck caught in the rain will often raise its head, open its mouth, and stand stone still until it drowns, when but a few feet farther along it could have found shelter.

WATCH THE BROODER

Watch the brooder closely for the droopy chicks, especially during the first ten days after hatching, for it is during this period that white diarrhea is most destructive. As a rule the chicks are hatched with it, and it usually develops in from four to six days. Take each droopy chick from the brooder as soon as discovered, and be careful to scald drinking vessels and change the scratching litter. After the first week the chicks are not as susceptible to this disease, and will not immediately take it from one having it. By following this plan the majority of the hatch may be saved.

INFERTILE EGGS

Many reasons may be advanced for infertile eggs. Pushing hens to extra laying through the winter, eggs from young pullets—those laying their first clutch, are some of the most common. Second-clutch eggs should always give more fertile eggs. Hens overfed on

Was One of the Worst Cases of CLUB FEET On Record!

The case was that of Frances Campbell, 13 years old, daughter of Mrs. J. A. Campbell, 3819 Western Parkway, Louisville, Kentucky. The upper photograph shows exactly how her feet looked July 7, 1913, when she came to us for treatment. Notice that they were twisted nearly completely backward. The lower photograph shows the feet as they now appear after treatment at this Sanitarium. This deformity was corrected without Chloroform, Ether or any General Anesthetic. Plaster Paris was not used. Write Mrs. Campbell. The

L. C. McLain Orthopedic Sanitarium

is a private institution, devoted exclusively to the treatment of crippled and deformed conditions, especially of children and young adults.

Write us freely regarding Club Feet, Spinal Diseases or Deformities, Infantile Paralysis, Hip Disease, Bow Legs, Knock Knees, Wry Neck, etc. We will send you descriptive literature and advise you fully. Ex-patients as references everywhere.

THE L. C. McLAIN Orthopedic Sanitarium
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Made-to-Measure

Express Prepaid $2.75

Pants cut in the latest style. Made-to-your individual measure. Fit, workmanship and wear guaranteed.

No Extra Charge for peg tops, no matter how extreme you order them.

Agents Wanted A good live hustler in every town to take orders for our celebrated made-to-measure clothes. Samples of all latest materials **Free.**

We Pay Big Money to our agents everywhere. Turn your spare time into cash by taking orders for our stylish clothes. Write today for beautiful **FREE** outfit.

THE PROGRESS TAILORING CO.
Dept. 637 Chicago, Ill.

Ironclad TRADE MARK

WINS In 2 Biggest HATCHING CONTESTS Ever Held

Mrs. C. F. Merrick, Lockney, Tex., with her 140 egg Ironclad Incubator wins in the Mo. Valley Farmer and Nebr. Farm Journal Big Hatching Contest. She placed 140 eggs in the incubator and hatched 140 strong chicks. Think of that. You can now get these famous **winners, made of Calif. Redwood.**

140 Egg Incubator / Chick Brooder } BOTH FOR $10

If ordered together. 30 days Trial, 10-year Guarantee. Order direct from this advertisement—money back if not satisfactory. Incubator is covered with galvanized iron, triple walls, copper tank, nursery egg tester. Set up ready to run. The Brooder is roomy and well made. Send for free catalogue. **Freight Paid East of Rockies**

Ironclad Incubator Co.
Box 67, Racine, Wis. (3)

SHOEMAKER'S BOOK on POULTRY

and Almanac for 1915 has over 200 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about Incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. C. C. SHOEMAKER, Box 963 Freeport, Ill.

WILL YOU TAKE ORDERS?

Many earn $30 to $60 every week demonstrating our **1915 Model Steel Automatic Handi-Tool.** Lifting and Pulling Jack, Wire Stretcher, Splicer and Mender, Post and Stump Puller, Tire Tightener, Cable Maker, Press, Vise, Hoist, Wrench, etc. Operates automatically. Has power of 40 men. Guaranteed for life. Spare time or permanent work. **Demonstrator loaned. Credit given.** Write for factory agency offer.

CHAS. E. BENEFIEL CO. 284-C Industrial Bldg., Indianapolis, Ind.

corn are poor birds to breed from. Male birds kept in closely confined quarters with the hens is bad for fertility. Rest assured that if the percentage of eggs lost through lack of fertility is large, there will be small chance to save very many of the chicks that do hatch. Infertility means a weakness that extends to many of the germs in the fertile eggs.—I. M. S.

MEAT RATIONS FOR EGGS

The effect of meat rations was tested at the West Virginia Experiment Station, where one pen of fowls received a ration largely of corn and other starchy grains, while another pen was fed partly on meat and fresh bones. The meat-fed fowls laid 7,555 eggs, while the grain-fed birds laid 3,431, or less than one-half as many as those receiving the nitrogenous ration. The eggs from the meat-fed fowls were larger, much firmer, rather better, and produced far more vigorous chickens than those of the others. Both lots of fowls remained in a healthy, vigorous condition.

FRENCH SAVE BY-PRODUCTS

The French are naturally an economical people, and after their fowls are killed and dressed are by no means through with the treatment of the subject. The waste products are scrupulously saved. The feathers are carefully collected and sorted, and when well dried are sold to dealers. The intestines are boiled, the fat skimmed off, minced as food to poultry, and the liquid fed to pigs. The combs and kidneys are sold to pastry cooks the first for decorating purposes, and the latter for pies. The head, neck and feet are sold to hotels and restaurants for flavoring sauces or are boiled down to make chicken jelly.

CAN FIND NO SUBSTITUTE

To date science has been unable to invent a substitute for the egg. The older the egg, the less is that sweet, rich flavor noticeable. It is of more importance to know the work of the individual hen than it is to know the average of the flock. There is nothing in the theory that the "sweet, rich flavor" of the egg belongs to the breed. That condition is alone brought about by the quality of the good given to the fowls.

For a continual egg supply, there must be early and late hatched pullets, as well as one and two-year-old hens, so that there will be some layers when others are broody or molting.

Clover is very rich in protein, and contains potash, soda, phosphorous, and other ingredients that make it one of the best feeds for fowls that can be named. It contains all the essentials in well-balanced proportion, and is palatable to the fowls, as well as healthful.

A great deal is written about the superior "juiciness" of this breed or that breed of fowls. The truth is, the juiciness, or the lack of it, is chiefly the work of the cook. The flesh of fowls should be judged by flavor and tenderness, and these, too, are largely in the hands of the cook.

21 Times World's Champion

Belle City

GET the whole wonderful story of the Belle City's World's Championship Hatches in my great Free Book, "Hatching Facts." The winners of the 21 World's Championship Hatches tell the story of their money-making, prize-winning success in their own words. Book gives you full information, facts, proofs and particulars about high percentage hatches everywhere with World's Champion Belle City hatching outfits. 227,000 in use.

Write for "Hatching Facts" Today

A Postal Brings It

It tells everything. Illustrates the Belle City Incubator and Brooder in actual colors—shows what makes the Belle City the 21 Times World's Champion—gives facts about hatching success, bigger and better than you have ever heard of before. Book gives

My $800.00 Gold Offers

Here's the greatest chance you ever had to make money with a hatching outfit. Conditions so easy every man, woman, boy or girl may receive biggest pay. Book gives full particulars of my 1, 2, 3 months' Home Test Offer, my 10 year money back guaranty and my low prices. Freight prepaid. Go after the gold. Don't let anybody get ahead of you. I ship quick from Buffalo, Kansas City, Minneapolis or Racine. Write now. Jim Rohan, Pres.

Belle City Incubator Co. Box 73 Racine, Wis.

Both Only $10 Freight Paid $ East of Rockies

Think of it! These two UNBEATABLE Wisconsin Machines—130-egg incubator and 130-chick brooder. Winners in 1910-11-12-13 and 1914 National Hatching Contest, both for only $10 delivered freight paid, (east of Rockies). Guaranteed 10 years and sold on 30 Days' Trial—Money back if not satisfied. Wisconsins are made of genuine California Redwood. Incubators have double walls, double doors, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc. ready to run. Biggest incubator bargain of the year. Send for our new 1915 catalog fully describing this outfit, also larger sizes. A postal brings it by return mail. Write

30 Days' Free Trial

Wisconsin Incubator Co.
Box 20 RACINE, WIS.

$200 A MONTH

operating the NEW MODEL COMBINATION CAMERA. It takes and instantly develops eleven entirely different styles of pictures, including two sizes and four styles PAPER POST CARDS, six styles of Tintype Pictures, and Brooch Pictures. Requires no experience whatever. Everybody wants pictures. Five hundred per cent profit. THE WORLD'S BIGGEST MONEY-MAKER. Small investment secures complete outfit, including Camera, Tripod, and material for 150 pictures. Make money the first day no matter where you live or what you are doing. WE TRUST YOU. Write today for free information, including letters from prosperous operators everywhere

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I simply must have more new agents quick to supply goods to my customers. This is your chance to make $30 to $75 weekly. Not a flash in the pan, but a steady growing business that will take care of you all through the years.

Experience Unnecessary I teach you how. Costs nothing to investigate. If you want the job, write me today and I will explain all about my great money-making plans **FREE.** Rush

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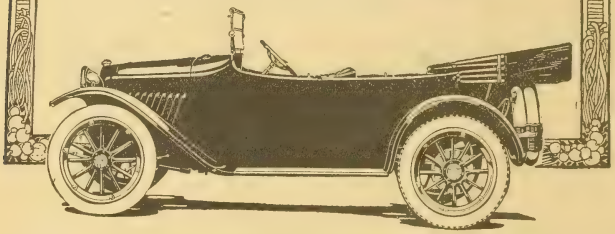

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Care of Breeding Animals

(Continued from Page 7)

never get anywhere by breeding to anything but a pure-bred sire. Secondly, he must be in good health and of good general dairy conformation. Next he should be from good producing ancestry. Then we should strive to get an animal that shows strong points where the cows show weak ones, as we thus can best get at correcting faults in the herd.

For instance, if one has cows that are generally poor testers, he should get a bull whose ancestors have been high testers. Or, if the cows are generally small and fine boned, a larger and coarser boned sire should be used. Then, too, the sire ought to be true to his breed type as far as possible. It is important to note the progeny of the bull, as that is the object in mind in selecting a sire. Unless he is the getter of good progeny he is not wanted, and for this reason, if one can get hold of a bull that has daughters in milk that have proven good, then he knows what he is doing.

There is some prejudice against the use of old bulls, and it is well to be a little careful about buying them, but if they are not too old for service, and are still sure, I do not see any objection to them except that they might be ugly. On the other hand many of the young fellows will soon become so. One must be prepared to handle vicious bulls if he is going to remain in the business, as they often prove to be the best of sires.

It is well to look up the bull some time before he is needed. It is much better to have to take care of an extra sire for a while than it is to get caught without one, or have to use an inferior one. In buying a young bull it is a good plan to speak ahead for the animal. In other words one should look up the ancestors he likes, and speak for their progeny. If he buys him in this way he should arrange for the animal to be cared for properly until he can get him, and then, as soon as convenient and practicable, get the animal under his own care, and feed him well and handle and develop him according to his own ideas. In doing this he should keep the youngster under his own control at all times. He ought to be handled a good deal, and in such a way that he can be taught and led around at any time.

When he is old enough for service a ring should be put in his nose, and his handling be done with a strong staff, as it is best not to trust the animal very far, no matter how quiet he may seem to be.

In general I believe people do not spend enough money for their bulls, and what they do spend is not usually spent judiciously, as they do not investigate the breeding closely enough before purchasing. Many will buy a bull for his markings, or for some other unimportant characteristic. When I buy a bull the only records I consider very strong are the annual 'ones. I want the dam of my bull not only to give a good flow of milk, and test well, but also to be persistent producer.—U.

MANAGEMENT OF PREGNANT ANIMALS

Successful breeding operations depend in a large measure upon the care and management of the females during

that period in which they are carrying their young. In addition to the general rules of sanitation and housing of pregnant animals, there are particular precautions that should be observed, so that safety and success may be assured, and as the time of birth approaches they should be more rigidly adhered to. The nearer the breeding females can be kept to their natural condition the more favorable it will be, as too much attention and pampering is likely to do harm.

Mares should be worked moderately, but not subjected to severe fatiguing work, especially as pregnancy advances, as the most difficult cases of parturition occur under this circumstance. It is essentially necessary that they should be exercised regularly—slow work may be given up to the seventh, eighth or ninth month, when more care must be observed, but even the exercise should be given moderately up to the time of parturition.

Under no circumstances should a mare carrying a foal be compelled to pull heavy loads or allowed to run and jump and travel over rough, broken ground. It is always better to exercise mares in harness rather than in saddle, as they can be held in better control. If it is found inconvenient to exercise the mare by driving, allow her liberty in a good yard where she may go out and in as she pleases. In general it may be said that all animals bearing young should have plenty of outdoor exercise.

The feeding of pregnant animals is a subject for careful consideration, especially in such cases where a certain amount of labor has to be performed, or where an animal is producing a heavy flow of milk. There is an increase of appetite and a tendency to fatten during the second half of pregnancy. This should be guarded against, as it is liable to become troublesome by either interfering with the growth of the foetus, causing abortion, difficult parturition or some other result, such as parturient fever, etc. The food should be of the best quality, and should be easily digestible, not of a kind that wil cause constipation. All fermentable, damp, musty or mouldy food should be avoided, as it will likely give rise to indigestion or colic, thus endangering the life of the foetus through possible abortion.

Small quantities of common salt added to the food from time to time assists digestion and assimilation. Salt assists in the passage of the blood through the membranes. Various phosphates and lime salts should be supplied if the food is deficient in these mineral substances. Prepared bone dust contains the necessary salts for the development of bone and tissue, and is used on many breeding farms with excellent results. Dairy cows that are being fed heavy rations of rich concentrates should have plenty of those phosphates and salts mixed with their grain foods.

Frozen foods, such as roots, herbage and silage should never be fed to pregnant animals. Neither should cold drinking water, as all are likely to give rise to an inflammation of the womb, abortion or some other unfortunate circumstance.

A brood mare, about three or four weeks before foaling, should be kept in a comfortable, roomy box stall, in sight of her stable mates. It is important that the doors be plenty wide, so that when passing in and out there will be no danger of the mare injuring herself. For cows the standing platform should have a very slight incline, just enough for the drainage of urine, as standing on a very inclined platform might throw the foetus backward so as to cause abortion. Cleanliness here should always be attended to, and under no circumstances must cows in this condition be crowded, but instead should be given comfortable open stalls. As soon as they show signs of approaching parturition they should be removed from the rest of the herd, and not allowed with them as long as any vaginal discharge remains. At the same time proper disinfection and cleanliness should be observed.

The animals should also be properly groomed, as it will have a beneficial effect, not only in the mother, but in the foetus. Men in charge of cows must treat them kindly and handle them with judgment, as rough treatment is likely to produce evil results. In giving medicine and stimulating remedies care must be taken, as the life of the foetus may become imperiled. This applies especially in the cases where the animals are allowed to become constipated, and it is necessary to give them strong purgative remedies. Careful feeding will be all that is necessary to keep the bowels regulated, and this is best accomplished by feeding plenty of succulent and laxative food, and providing means for the animal to exercise in the open air. Outdoor air and exercise exert a stimulating and invigorating effect upon pregnant females, and is far better than allowing them to become off-feed and constipated, and depending on epsom salts, raw linseed oil and the like, to correct this condition.

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SPANISH ONIONS FOR EVERYBODY

It is generally supposed that the so-called new onion culture is only for those who are fortunate enough to have a greenhouse for starting the seeds. Such is not the case, however. The kitchen window is amply large enough to grow sufficient plants for all ordinary home needs. Flats about three inches deep are used. These are filled with rich garden soil and the seeds sown in rows, thick enough to allow for plants to stand close together. The rows need not be more than three inches apart.

Set these flats on the back of the kitchen range, and keep moist until the seedlings appear, then put them in the sunny window. They grow rapidly. If the seeds are not planted until late March, there is still time to get good plants to set in the ground by the latter part of April. These seedlings are easy to transplant. Pull them up and cut off about half of the tops and roots. Set in the garden rows about five or six inches apart, and give cultivation as for field-sown plants. The soil needs to be well supplied with humus and fertilizing elements.

A rich sandy loam is best, but almost any soil will do if it not too wet, and is heavily manured. Prizetaker is the best variety, being better for keeping purposes than the Giant Gibraltar. The latter is the sweetest, and perhaps the largest of all onions. It is not necessary to tart plants of the globe or flat varieties, as the season is long enough, even in the extreme northern states, to perfect them from field-sown seeds.—C. H. C.

LIMA BEANS

The writer's experience is that the best way to get a good stand of lima beans is to plant the seed on inverted sods in cold-frames. It is difficult to get a good stand of beans when the seed are planted in the ground, for the reason that the first rain will so firmly pack the ground that the tender plant cannot force its way through. In germinating, the lima forces the entire bean out of the ground, and if the ground is at all hard or packed, the bean breaks off just under the ground. Another objection to the open planting of limas is that if the ground is the least cold, or chilly weather comes after the seed is in the ground, the seed will not germinate.

Limas started in cold-frames usually germinate well. We plant the beans on inverted sod, the surface of which is scratched until some loose dirt shows on top. The sods are about five inches square and fit closely together. Three seeds are carefully placed on each sod. The bean is placed eye down, for the reason that germination starts from the eye, and as the entire bean is forced upward through the soil, there is less danger of the tender stalk breaking. The beans are lightly covered with fine soil. The covering should not be greater than one inch. As a rule every bean germinates. When the beans are up some judgment must be used in regulating the air and heat. On real warm days, the sash should be raised slightly, so as to permit the entrance of air. On windy, or chilly days, the sash should not be raised. Four or five days before the time it is intended to remove the plants to the open ground, the sash should be kept open the greater part of the time, so as to gradually accustom the plants to the weather conditions they will encounter in the open ground.

The writer plants the pole variety of limas, and before the plants are transplanted the ground is thoroughly plowed and harrowed, and the poles placed in position. The poles are placed before the beans are transplanted, for the reason that placing the poles after the plants have started to grow will disturb the roots and retard growth.

The lima bean has a long bearing age, usually bearing well until killed by frost. By starting in cold-frames, they can be made to bear from two weeks to a month earlier than those planted in the open ground. This gain in earliness and increase in production is well worth the extra trouble of starting the plants in frames.—T. Z. R.

TRANSPLANTING

Most plants grown in a hot-bed should be transplanted at least twice—from the seed-bed to cold-frames, and from the frames to their permanent location in the garden. When the plants reach a height of two inches, we transplant them to a cold frame. Later they are again transplanted to paper boxes and kept under glass. If the best results are to be obtained this method should always be employed in handling tomato plants that are expected to yield an early crop.

If left in the seed-bed until large enough to go in the open ground, the plants will soon crowd one another. They will grow long and spindling, and there will be poor root development. Transplanting may retard growth for a time, but this loss is more than made up in the large root growths and stocky stems that result. Another advantage of transplanting from the hot-bed to a cold-frame is that the plant can be gradually hardened to outside conditions by raising the sash on fair days. If one does not care to transplant to cold-frames, the plants in the hot-bed should be thinned to stand at least two inches apart.

If possible, transplanting to the open ground should be done right after a good soaking rain. If the plants are in paper-boxes, it will be only necessary to dig a hole and set the box in. The plant will suffer no set-back, and the

moist earth will so soften the paper-box that the roots of the plant will have no difficulty in pushing through.

In transplanting from the seed-bed to the open ground, a hole is made in the soil with a pointed, round stick, the plant inserted, and the soil pressed tightly around the roots. The plants should go slightly deeper in the soil than they stood in the seed-bed. In firming the soil around the plant, one should press downward as well as toward the plant. Many merely pull the soil around the plant without pressing, which often leaves a hollow place or pocket below the top of the soil, thus keeping the roots of the plant from coming in contact with the soil. When such conditions exist, the plants dry out rapidly and many die.

If a large number of plants are to be set, or if the plants cannot be transplanted immediately after being taken from the seed-bed, they should be "puddled." A "puddle" is made by pouring water on a small quantity of soil until the mass is about as thick as molasses. The roots of the plants should be kept in the "puddle" until just before they are planted in the ground.

It often happens that plants are ready for transplanting at a time when the weather is dry and warm. When the plants are ready for the open ground, they should be transplanted regardless of weather conditions—or rather moisture conditions. Keeping them in the seed-bed a few days longer than they should be there results in weak plants, stunted root development and spindling stems.

In pulling plants in dry weather they should be "puddled" immediately. When this is done the tiny rootlets are protected from dying. A hole is scooped out with the hands or garden-trowel, the plant placed in position, and the hole filled with water. Soil is then pulled around the plant, care being taken however, that the moist soil around the plant is covered with dry soil to prevent the moisture from evaporating and the soil from baking. If the sun is hot the following day, it may be necessary to cover the plants. The writer uses newspapers for this purpose. The papers are held in position by clods at the corners. The papers are removed every evening. If rain holds off the plants are watered every evening until they have taken root. After watering, the moist top soil is covered with dry earth.

When plants are transplanted in dry weather, and given the attention as outlined above, very few will die.—T. Z. Richey.

POTATO DISEASES

Carelessness in seed selection, failure to rotate the soil with leguminous crops, and neglect in properly preparing the seed-bed are three of the most prominent things responsible for potato-crop failures. Any or all of these may be easily remedied by the ambitious potato grower, and his measure of success corresponds with the effort expended. Below are given some of the most serious diseases, with the best methods for treatment:

Common Scab — Scabby potatoes should not be planted. Wherever the skin is injured a rough, corky layer is formed. The fungus lives over winter within these corky layers. The spores may also stick to the surface of potatoes that are not scabby. Seed treatment will kill the spores that cause common scab. All seed potatoes should be treated. Potatoes free from this disease, when planted in infected soil, will also become infected and grow scabby potatoes.

Fusarium Wilt—This disease forms a dark ring underneath the surface. The disease does not appear on the surface, and can only be discovered by cutting off the stem end of the potato. It grows from the seed up into the water tubes in the stem, which carry water from the roots to the leaves. When the plant is growing in the field, this disease stops the flow of water, through the stem, from roots. Leaves then wilt. Hence the name. If a thin slice is cut off from the stem end of a potato, brown streaks forming an irregular brown ring will be seen, if the potato is infected. This brown ring will turn dark as the potato remains in storage, and may spread to all parts of the tuber. Seed treatment will not kill this disease on the inside, although it may kill the spore or germs which may stick to the surface of sound tubers. Potatoes showing this disease should never be planted. Infected potatoes not only carry this trouble to the next year's crop, but will infect the soil in which they are planted, where these disease germs may live for a number of years. This is our most serious potato trouble, because it is difficult to control.

Rhizoctonia—This is a common fungous disease which forms tiny hard dark specks or germs in colony groups on the outer surface of the potato. The groups may be large or small and look like specks of dirt. Wet them and they turn black. They stick very firmly to the skin of the potato. When infected potatoes are planted, a fungus grows from each tiny speck and attacks the roots, underground stems and sets of the potato. It turns the stem brown just below the surface of the ground, and kills the sets or young potatoes. Very few potatoes can form in a diseased hill. Dr. Hill's treatment, given here, will kill small colonies of this disease, but no treatment has yet been discovered that will kill the large colonies. Therefore potatoes with large

(Continued on Page 38)

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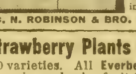

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Banner Year Predictions

(Continued from Page 5)

trade, its natural grazing lands and its vast herds and flocks has been the source of the world's supply of meat.

The world's demand has been so great, however, that the consumption in the United States has necessarily declined. For the past eighty years the ratio of meat products—beef, mutton and pork—to population has gradually declined in our country, while the exports of the same reached 2,198,000,000 pounds in 1906, since which time they have gradually fallen to 50 per cent at the present time.

Changed conditions demand new methods. While great attention has been given by some far-sighted men to the importance of improvement of the beef type too many have neglected it. After the cattle boom of 1882 to 1890, for various reasons, business depression almost ruined the stock business from the breeders' standpoint. Hundreds of the best pure-bred males were "steered" and sold on the market.

As it is only through the males that great improvement is made, the industry suffered greatly. Home breeding is imperative, and a good form of beef cattle can only be obtained by using pure-bred males of the distinct beef breeds.

While the older sections have been sleeping, the West has been working. As a result it is now possible for the winter feeder to purchase a better grade of western cattle at Chicago or Kansas City than he can secure in his own community. He thus pays a high price, feeds high-priced feed and realizes little profit aside from improvement of farm fertility, or profit from hogs that follow the cattle.

We have been emphasizing the dairy industry to such an extent that we have lost sight of the beef breeders. Many farmers have been content to accept "scrubs" as feeders. The reaction is bound to come. In the future the different sections of our country will be placed almost on an equality, so far as cost of production is concerned. There will be no cheap cattle in the East, West, North or South.

Much interest is now being taken in the beef-cattle industry of the South, and this interest is shown by the large number of farmers who have been buying pure-bred cattle for the past two years, by scarcity of good beef cows, the readiness with which they sell, and the great increase in the number of silos being erected by farmers who own beef cattle. Country live-stock associations are being formed, and the best breed of beef cattle is decided upon. In fact, there are signs of progress everywhere and the growth of the production of beef in the Middle West and South seems assured. Everywhere quality will determine profit as well as value of an individual. Farmers and beef breeders are coming to realize this fact more and more.

No community can long prosper without live stock. In the corn belt sheep are out of the question. Hogs and cattle are left and go well together for profit. All farmers cannot handle great numbers of feeders, but each farmer can make a fair profit by raising the best and making his own farm feed them.

We have nothing to fear from Argentine and Australia, neither at present nor for many years to come. Argentine is not going to export much to us. She is going to compete with us for the markets of Europe. She has very little cheap meat to sell. They have some of the finest herds in the world, and will continue to develop the meat supply as long as it is profitable. Australia is not going to sell to us when Great Britain pays a higher price.

If the signs of the times point to anything, they certainly point toward success to the farmer with a breeding herd of beef cattle. Farmers have, as a rule, been having many conditions to combat in the cattle-breeding business, but a change has come, and the farmer who is breeding good cattle, whatever the kind, has a prosperous business in hand. The outlook for the farmer was never brighter; there is little danger of decline in price from over-production, so the farmer has an assurance for a continued good price for beef.

Cattle-feeding business is somewhat of a speculation, being always an up and down proposition, yet this is not so true of the growing of beef cattle. A beef shortage looms up in the future and good prices can be expected.

Last year the man who grew his cattle made money; this present season, he is making money, and the prospects were never brighter than now for the future.

FOR DAIRY BREEDERS

By John Underwood

We, the people of the United States, may be justly grateful that we are enjoying prosperity and the pursuit of happiness, and the possession of worldly goods which are unmolested. We can go through the season with a feeling of assurance that our homes will not be wrecked and our fields and crops laid waste by awful war. I believe, without a doubt, that the terrible disturbance in Europe is going to help materially in causing a wonderful wave of prosperity over the whole of this country.

The orders that have come to this country for implements, automobiles, been given by some far-sighted men to the importance of improvement of the beef type too many ,have neglected it. After the cattle boom of 1882 to 1890, for various reasons, business depression almost ruined the stock business from the breeders' standpoint. Hundreds of the best pure-bred males were "steered" and sold on the market. hauling power of the railroads; it will pour gold and silver into our banks, and it will put new life into the entire commercial world.

All this speaks very highly for the future for the breeder of dairy cattle, and for the general dairyman, too. It is unquestionably the truth that the near future is going to see the keenest demand for dairy cattle that has been known in years. The quarantine for foot-and-mouth disease is rapidly being lifted, and that means that dairy cat-

tle can be shipped to various parts of the country without any question from that source. It means that there will be a free interchange of the best cattle in the country, and it also means that there will be a tremendous demand for stock that will pay a profit on the money invested in the way of large production of dairy products.

Truly the next few months are going to see a wonderful growth in dairy prosperity, and the man who has good stock to sell, the man who is advertising, is going to reap the greatest profit. This is not prophecy, it is a conclusion based upon facts that cannot be disputed.

In the near future the general dairyman, the man with high-producing cows and good dairy equipment, is going to receive a greater profit from his operations than he has in the past. I consider that a man who is dairy-inclined cannot spend money more wisely than for good cows and good dairy equipment, such as a cream separator, Babcock tester, a gasoline engine suited to his purpose, good barns, and, in fact, prepare himself as far as his means will allow to produce as large a quantity of high-grade dairy products as he possibly can.

Dairy products always sell for a splendid price and the indications on every hand denote that in the not-far-distant future the price of good milk, good cream, good butter and good cheese will be higher than ever before. As far as I can see there never was as bright a prospect for the dairy-cattle breeder and general dairyman to make money than now. I am fully confident that since the beginning of dairying and dairy cattle breeding, 1915 will be the Banner Year.

THE FARMERS OF THE U. S. TO SAVE THE NATIONS OF EUROPE?

By Lester J. Meredith

As a rule the prophet is a sadder if not wiser man when the time set for the fulfillment of his forecasts prove the falsity of his prevision. And yet in the face of these deterrent facts it is my prophecy that the year 1915 will prove one of the most profitable years in the history of American farming.

It surely requires no prophetic vision to view the future as an era of high prices for all kinds of farm products. We are not a people of small faith. We would not dare to read providences. Some there are who assume to read them. We would not challenge the close acquaintance they claim to have with the intent of the Infinite, but, if we were given thus to interpret human events, we might conclude that the American farmers were put here to save millions of human beings who are at war from themselves.

It is easy to imagine the suffering and starving of the innocent victims of this unjust war had it not been for the fruits of our fields that have been sent to them the past winter. Putting our hands to the plow, let us not look back, but press ever, eager forward.

Not only are our food crops needed to save the millions of starving people in the countries at war, but the prosperity of the American farmer is needed to restore confidence in every branch of

Unexampled provisioner of the world. industrial activity in this country.

agricultural America, despite the fact of vastly enlarged home markets, is prepared to fend off international hunger until the warring nations are again at peace. The grain grower has been treading the paths of prosperity. Prices have been lifted to the highest level in the history of latter-day farming for the entire range of grain products. The stockman has not shared proportionately in these gratifying returns, but it does not require any prophetic gift to behold the coming of the stockman to his own. Meats are short in supply, and not enough is in sight to supply the demands of the nations at war. Breeding stocks are in a pitifully limited supply for the home demand that is sure to arise at the reawakening of industrial conditions in our own country. Let us pull together to make the year 1915 a banner one in American farming.

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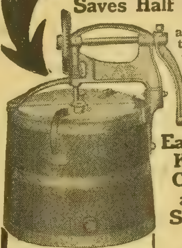

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What John Andrews says: The Fayway is a new kind of a butter separator that came out with what looked like extravagant claims. We did not care to advertise it to our readers until these claims were established to our satisfaction. We sent a man to Cincinnati and unbeknown to the manufacturers, he spent a half day in a dairy where the Fayway Butter Separator was being used. Our man saw it do all and more than was claimed for it, and came back enthusiastic.

Makes Best Butter in Town
When I first tried to make butter, I worked for hours, and then had inferior butter. I tried many churns, and heeded all advice, but after a year I was still making poor butter and wasting a lot of cream. I saw the Fayway advertised, and I wrote for one. I now have the reputation of making the best dairy butter in town, and the credit is all due to the Fayway.
The Fayway Co. has absolutely lived up to their agreement and by following their advice, I have recovered at least 20 per cent more butter from my cream and market it at top price. MRS. J. W. McCLOY, Eden, N. Y.

Butter in Exactly 5 Minutes
After heating our cream to 60 we proceeded to churn; it took me exactly five minutes to make the butter. My wife is delighted with the Fayway. C. U. STRONG, Mora, N. Mex.

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The Fayway Butter Separator certainly does make fine butter. Already my demand for Fayway Butter is larger than I can supply. MRS. F. KOHLER, Hamilton, Ohio.

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All churns beat or whip the butter fat out of cream. This breaks the fat globules and makes greasy, salvy butter. The Fayway has a center hollow shaft through which a strong current of air is forced, blowing all the butter fat upward where it quickly forms into golden, pea-shaped granules, ready to be worked. Absolutely free from impurities, the butter is washed and worked in half the time "churned butter" requires. Firm and waxy in texture, of superior grain and beautiful golden color—you'll say it's the finest you ever saw or tasted!

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Grasses for the Pasture

Supply of Succulent Grasses Important on the Farm

Many farmers have different ideas as to just the number of kinds of grasses that ought to be included in a permanent pasture. Some like to include a number of grasses, and others do not think it necessary to put in so many. The fact is generally recognized, however, that in seeding for pasturage, the purpose should be to mix the different varieties so as to secure a succession of grasses maturing at different times throughout the season. However, the selection must be governed somewhat by the nature of the soil, the requirements of uplands being radically different from those of lowlands. It will be seen, therefore, that to build up a pasture into an asset of real value, it is good economy to study the characteristics of the grasses one may wish to sow. But no matter how many varieties of grass are used, those that are best adapted to the soil will gradually crowd out the others, and take possession.

While the domestic grasses, the clovers and the timothies, make very good pasture, they are beyond their prime in midsummer, and after that become dry and woody, and, to a certain extent, distasteful to stock, while a blue grass or orchard grass pasture seems to retain its freshness and palatability even after killing frosts in the fall. Orchard grass is disposed to grow in tussocks, but otherwise it is one of the most desirable of all grasses. Because of its excellent earliness, and its ability to resist drouths, this grass has a decided value in any pasture. It thrives on almost any kind of soil, doing well on lowlands and in shaded locations. A quick-growing aftermath is furnished, which is relished by stock, particularly horses and sheep. Close grazing does not hurt it as it does some other grasses; rather, it tends to reduce the bunched appearance that is characteristic of the plant. Its susceptibility to injury by frost will sometimes retard growth during the earlier part of the season.

Timothy, though popular, is not a first-class grass in the same sense as some other varieties. It will not withstand close grazing, and suffers severely from drouth. Under the most favorable conditions it affords only a scant aftermath. During the early part of the season, however, it makes a good growth, and is relished by all stock. It generally pays to give it a place, as it will thicken the sod during the first year or two until the more permanent grasses are established.

It is generally unnecessary to sow blue-grass seed, as on suitable lands it comes in naturally. As a matter of fact, it will only be a question of time when the blue grass will crowd out all of the other grasses and occupy the land. The same may be said of many inferior grasses, that are practically weeds, so far as feeding value is concerned. Ungrazed patches show that they are distasteful to stock. Pasturing mixed stock—horses, cattle and sheep—will in such cases prove economical, as what is undesirable to one class may be preferred by the others.

Mixed grasses for pasture always make more acceptable feed for stock than any one grass, regardless of its high quality. Medium red clover excels other grass in quality but it is much improved in feeding value when grown with timothy, orchard grass, blue grass, etc. In fact, there is less trouble or loss from bloat when clover is not de-

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2 1-2 lb. Packages Shredded Cocoanut	.40
3 Packages Caramel Pudding	.45
4 Packages Strawberry Gelatine	.40
2 1-lb. Packages Corn Starch	.20
2 1-4 lb. Pkgs. Black Pepper (Gr.)	.20
20 Bars Family Laundry Soap	1.00
6 1-lb. Cans Lustre Bright Scour Pwd.	.60
2 Packages Washing Powder	.20
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pended upon wholly for a pasture. The clover is especially dangerous when eaten by hungry animals that are turned into a heavy growth directly from the yards, when the grass is laden with dew. Clover bloat rarely ever occurs where cattle or sheep are pastured on mixed grasses, although the combination may include large proportions of the clovers.

Every pasture ought to have some of the clovers in it—white clover, alsike and medium red clover. They raise the feeding value of the forage, and are no small factor in producing a heavier growth, through their ability as soil improvers. It is well understood, of course, that red clover will not last in a permanent pasture more than two or three years, but it comes on the first year or two and gives the maximum amount of feed before the other grasses get established. It also acts as a host plant to the other grasses. That is, its decaying roots in the soil furnish food for the other grasses, and it keeps the soil in good mechanical condition so that the other grasses thrive better where some clover is used, and it should not be omitted.—W. F. Purdue.

GROWING ALSIKE CLOVER

Every year we are becoming more and more impressed with the value of alsike clover, although we have used it for a number of years in our grass seed mixtures. We have repeatedly failed to secure a suitable stand of common red clover, when the alsike would come in and make a fair crop.

Another valuable characteristic of the alsike clover is the fact that it will stay in the soil several years, and if given the opportunity will reseed itself. Alsike clover grows but little after mowing, and no second crop can be expected from it, as is the case with red clover. Both in this respect, as well as in the longer time it requires to yield its maximum crop, it ranks lower than red clover. Its great and undeniable advantage on the other hand, lies in the fact that it is far more hardy than the red clover, and can be successfully grown at certain times during the year on land that is too wet for red clover.

If alsike clover seed is mixed with pasture grass mixtures it will yield rich and certain grazing crops, and when cultivated on arable land red clover may, and should be, mixed with the seed with which the field is seeded. In this way the great advantage gained is the fact that the first year after sowing two crops of fodder may be harvested, chiefly consisting of red clover, and in the following years, after the red clover begins to decline, the alsike comes in and yields rich and certain crops, together with the timothy and other grass seed.

We follow the same general method of culture that we do in growing red clover, with the addition of the following: As alsike has a tendency to lodge when it is in full vegetation, we find that it is desirable to sow it with other grass seed, preferably with timothy. The crops by this means are very thick, and timothy supports the alsike so that it does not fall to the ground and rot.

While alsike does not yield as large a crop per acre as the common red clover of equal stand will, and its analysis of nutrients is slightly less, yet it is a very profitable crop, and in actual food value I have found but little difference, ton for ton, for feeding a herd of dairy cattle, and for feeding horses and young stock I have found it greatly superior. The time and method of cutting and curing will make more difference than the variety.

Alsike clover is not recognized by soil experts to be as valuable a crop as the common red clover, for the reason that it lacks the branching root system of the red clover, but it is a legume, and hence will improve the soil, and will grow on many soils where red clover cannot be used as a nitrogen gatherer to build up the soil. I have found in actual farm practice that it is much better to sow a mixture of grass and clover seed that will make a sure stand under favorable conditions than to spend time and money for so uncertain a plant as red clover, on any field except where it is very sure to make a good stand. There is no question but what the alsike will stay where the red clover will not thrive.

Creating a New Art

At the Centennial Exhibition at Philadelphia, the exhibit of the Bell System consisted of two telephones capable of talking from one part of the room to another.

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Starting with only these feeble instruments, the Bell Company, by persistent study, incessant experimentation and the expenditure of immense sums of money, has created a new art, inventing, developing and perfecting; making improvements great and small in telephones, transmitter, lines, cables, switchboards and every other piece of apparatus and plant required for the transmission of speech.

As the culmination of all this, the Bell exhibit at the Panama-Pacific Exposition marks the completion of a Trans-continental Telephone line three thousand four hundred miles long, joining the Atlantic and the Pacific and carrying the human voice instantly and distinctly between New York and San Francisco.

This telephone line is part of the Bell System of twenty-one million miles of wire connecting nine million telephone stations located everywhere throughout the United States.

Composing this System, are the American Telephone and Telegraph Company and Associated Companies, and connecting companies, giving to one hundred million people Universal Service unparalleled among the nations of the earth.

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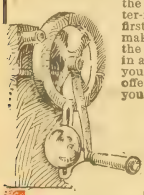
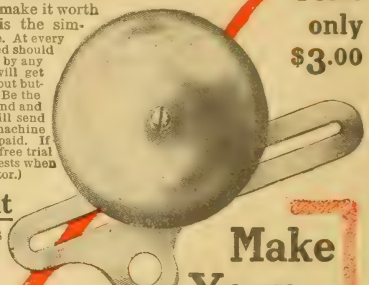
A simple, inexpensive, positive, reliable speed indicator for any make or style of cream separator. Can be adjusted instantly for any speed desired. Is not affected by heat or cold. Nothing to wear out. Nothing to get out of order. Lasts a lifetime--or longer. Absolutely guaranteed in determining speed. Can be put on any machine in two or three minutes. Covered by United States Patent. Send for yours today. Requires no additional power to operate. Be Prompt.

Try It For 30 Days

You may have one of the "Simple Cream Separator Speed Indicators," to use for 30 days to test it out. All that is necessary is to sign your name to the coupon below and mail it today. The Free trial for 30 days is only part of our big offer to you—we have something of tremendous importance for you. We show you how to save at least $20.00 a cow yearly. We make it worth your while to show the speed indicator to your friends and neighbors. It is the simplest and most wonderfully satisfactory invention of its kind. So positive, so correct so simple. At every turn of the crank the bell taps—until the proper speed is attained—then it ceases. If the speed should vary the litle bell warns you. It tells you exactly what to do. It can be operated in the dark by any one. Once it is adjusted, that ends it, and there can be no more losses in butter fat. You will get the highest butter-fat test. No more squabbling with the creamery man about butter-fat tests. Everyone of your neighbors will want one when they see yours. Be the first in your community to get this speed indicator. If you will give us the kind and make of your separator, and the speed at which it should be operated, we will send the "Simple Speed Indicator" already adjusted and ready to slip on your machine in a minute. The price of this speed indicator is only $3.00, all charges prepaid. If you are dissatisfied it will not cost you a cent. Send for one on our "30 day free trial offer" and do it today. Save $20.00 per cow per year. Get the best butter-fat tests when you sell your cream. Stop the losses—send the coupon today. (Name separator.)



The Price only $3.00



Agents

Make 100% Profit

Here's something that sells itself. Every owner of a cream separator is a buyer—as soon as he sees and understands this simple little device. It is absolutely reliable, cheap, strong and durable. Our terms to agents are liberal, and as we are just starting to distribute, there is plenty of choice territory open for agents. We have a big money-making proposition for you, if you will write us today for agents' terms and sample. $50.00 a week is assured, if you write at once. Ask for our agents proposition and prices. Grasp this wonderful opportunity. Credit given when needed. Get a sample quick.

Make Your Separator DELIVER the FAT

A very exhaustive test was recently made at one of the big experiment stations in order to demonstrate the apalling loss of cream, caused by the wrong operation of the cream separator.

For example one separator was run at its normal speed of 55 turns of the crank per minute. They put 50 pounds of milk through the machine. It showed 45 pounds of milk and 5 pounds of cream. The cream test showed 2.11 pounds butter fat. The speed was then increased to 75 turns per minute. This experiment produced 46½ pounds of milk and 3½ pounds of cream. The butter-fat test fell off a little. Then another test followed when the machine was operated at about 25 to 28 turns per minute. This test showed about 40½ pounds of milk and 9½ pounds of cream, but the remarkable thing about this was that the cream had a very low butter fat test—actually giving only a little over one pound butter fat from 50 pounds of milk, as against 2.11 pounds when the machine was properly operated at its correct speed. You can't guess the speed. It's like guessing in anything else—the chances are against you. You lose. Butter fat and real profit can easily go into the skim milk can, if the separator is not properly operated. The "Simple Speed Indicator" solves once and for all this very important problem for you. Send the coupon to-day for wonderful offer to you — and "GET THE CREAM." Do it right now. **Give the name of your separator. Address**

SIMPLE SPEED INDICATOR DISTRIBUTORS
Springfield, Ohio

RUSH for PRICES and SAMPLE

Simple Speed Indicator Distributors
Springfield, Ohio

Dear Sir:—I am sending this coupon for a Speed Indicator on your 30 days free trial offer. I have a_____ _____separator and milk_____cows.

Name _____

Postoffice _____

R. F. D. No. _____ State _____

HOW LONG SHALL A COW LIVE?

"How long shall we keep a cow?" It is an old, old question. Here is my answer: Keep some fifteen minutes, some fifteen years.

And I really believe there are more of the fifteen-minute cows than of any other class. You find them everywhere, and wherever you find them, you find a man who is up a stump in his dairy operations, and does not know what is the matter. Milking, milking, milking year after year, and getting little or nothing to show for it. It certainly is a discouraging business, and all so needless. Stop a minute and think. Why not keep better cows? Does it really cost any less to keep a poor one than it does a good one?

A man I know of has figured that out to his heart's content. He bought a farm some twenty-five years ago. His cows at that time were the average sort you find more of than any other. You could step right out today and pick up plenty of them. And he figured and figured and figured on the cost of feeding those cows, and reckoned up what he took in for them. The two sets of figures were too near alike to be very comfortable. It looked to him as if he were just working for nothing and boarding himself for the sake of keeping those cows, and he did not like it.

And he quit right off and began to get good cows around him. He was not able to do any very big stroke of it all at once, for he had no long pocketbook to draw on, but he bought a few choice calves. He kept that up, and it was not long before he had a pasture full of cows of a different stripe from any that had ever been seen in that neck of the woods.

And the best of it is, he has set his neighbors all to hunting for the best cows posible. You can't bring a fine cow into your neighborhood and not have all the farmers round about come and ask, "John, where did you get that cow? How much did you pay for her?"

Now, all these fifteen-minute cows ought to be put out of business just as soon as we possibly can. Why not? Life is short and too valuable to waste waiting on cows that never have done anything worth while, and never will. You can get into the better kind of dairying just as did the young farmer I have spoken of above. He did not take the road along with him. There are more good calves where he got his. All that is lacking is the disposition. We can take a few of the dollars we are salting down in the old bootleg and go a few miles away and invest in a bull and heifer calf of some good breed. You know what you like best—so do I. And in a few years we may have about us the best herd we ever did have.

Let's get more of the fifteen-year sort of cows!—E. L. V.

INSURE YOUR SEED

Get a "catch", a good stand, and a big yield of CLOVER, ALFALFA, Peas, Beans, Vetch, and *all other Legumes*—inoculate with

Gold Medal St. Louis 1904

The Improved German Soil Inoculator. Nobbe-Hiltner Process

NITRAGIN

TRADE MARK REG'D DEC. 6, 1898 NO. 32212

PURE CULTURE

THE SIMPLEST SAFEST AND SUREST SYSTEM OF SOIL INOCULATION FOR ALL LEGUMES

In half-acre, 1-acre and 5-acre cans

Inoculated ALFALFA Not Inoculated

"NITRAGIN" is the *original* Pure Culture—a *granular* medium (*not* a jelly)—nothing to break or spill—packed in a ventilated can, containing millions of surfaces, supporting billions of nitrogen-gathering germs, their health, strength and virility

Guaranteed for Six Months by the Armour Fertilizer Works.

Absolutely harmless. Easy to use. An investment—not an expense. Remember—legumes not inoculated take *no* nitrogen from the air. Inoculated legumes mean bigger yields, richer feeding value, better soil. *Avoid Imitations.* LOOK FOR THE ARMOUR OVAL LABEL. Pure Culture inoculation is endorsed by the U. S. Dept. of Agriculture and other authorities. Don't waste good seed. Make your crop *sure.* Inoculate with "NITRAGIN". It can be obtained for *any* legume.

See your seed dealer or write our nearest office for *free booklet.*

ARMOUR FERTILIZER WORKS, Dept. 84

Chicago, Ill. Baltimore, Md. Atlanta, Ga. Greensboro, N. C. Jacksonville, Fla. Nashville, Tenn.

Only $2 DOWN and One Year To Pay

For any Size—Direct from Factory

You can now get one of these splendid money-making, labor-saving machines on a plan whereby it will earn its own cost and more **before you pay.** You won't feel the cost at all.

$24 BUYS THE NEW BUTTERFLY

No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of **only $2 down and a year to pay.**

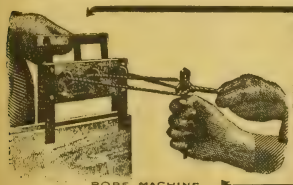
Patented One-Piece Aluminum Skimming Device, Rust Proof and Easily Cleaned — Low Down Tank — Oil Bathed Ball Bearings — Easy Turning — Sanitary Frame — Open Milk and Cream Spouts.

30 DAYS' FREE TRIAL GUARANTEED A LIFETIME

You can have 30 days FREE trial and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it alongside of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your $2 deposit and pay the freight charges both ways. You won't be out one penny. You take no risk. Postal brings Free Catalog Folder and direct from factory offer. Buy from the manufacturers and save half. Write TODAY.

No. 5½ Over 20,000 now in use

Albaugh-Dover Co., 2272 Marshall Blvd., Chicago, Ill.



ROPE MACHINE

IMPROVED IDEAL ROPE-MAKING MACHINE

MAKE ROPE FROM BINDER TWINE WITH THIS SIMPLE MACHINE
NO LOOSE ENDS TO UNRAVEL. MAKES ALL KINDS OF ROPE.

Halter ropes that cost 15c at the store can be home-made at a cost of 2c with an IDEAL ROPE MACHINE. But the saving in cost is not the only advantage. Binder twine makes better rope than you can buy. Twine has to be strong to hold bundles of grain and therefore makes a strong, light, pliable rope—Ideal Rope. Factory made rope has short fibres, is not so strong and snarls up when wet.

AN INVESTMENT OF $1.50 IN THE IDEAL ROPE MACHINE

Will return you a profit of 200 per cent every year and save lots of time and bother. No need to drop your work to get rope from town. With an Ideal Rope Machine you can in a few minutes make a rope just the size and length you want. We guarantee the Ideal Rope Machine to be made of good material and to last a lifetime with ordinary use. Agents wanted in every county. Write us at once for Free Descriptive Circular, or send us $1.50, postal order or check, for a machine, and get the agency.

LOUIS O. BERG, Dept. 6, MADISON, MINN.

"Horse Sense"

A Horse Knows a Good Thing When He Sees It!

If your horses or mules are clipped before the spring work begins they will get all the nourishment from their feed — be healthier and look better. They will dry off quickly, be more easily cleaned and feel better generally — that means work better.

If you want to sell them, they'll bring a much better price.

Insist on having the Stewart, the machine that turns easier, clips faster and closer and stays sharp longer than any other. Gears are all cut from solid steel bar. They are enclosed, protected and run in oil, little friction, little wear. Has 6 feet of new style, easy running, flexible shaft and the celebrated Stewart single tension clipping head. Highest grade. Get one from your dealer, or send $2.00 and we'll ship C. O. D. for balance. MONEY BACK IF NOT SATISFIED. Ask for one TODAY.

Price only **$7.50**

Get More Wool Money!

Clip all the wool and get longer, better wool that will bring the highest price.

You can easily net from 15 to 20 percent more from every sheep you shear with a Stewart No. 9 Machine. Don't labor with hand shears in the old, hard, sweaty way. Don't have aching, swollen wrists. Don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts. Take off the fleece smoothly and quickly with a

Stewart No. 9—Ball Bearing Shearing Machine

It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Complete, including four combs and four cutters of the celebrated Stewart quality, $11.50.

Get one from your dealer, or send us $2.00 and we will ship C. O. D. for the balance. Money back if you are not pleased with it.

CHICAGO FLEXIBLE SHAFT CO., 230 Ontario St., Chicago, Ill.

Write for FREE catalogue showing most complete line of Horse Clipping and Sheep Shearing Machines in the world.

Price **$11.50**

The Stewart Machine shears longer, better and more wool.

SAVE SEED—

INCREASE THE YIELD—

WITH A J. I. CASE POWER DRIVE PLANTER

PLANT your corn with the greatest possible accuracy. Repeated tests in actual work prove that the J. I. Case Power Drive Planter is accurate—also durable, light draft and is easily operated. Accompanying chart shows clearly the high quality work of this planter—you save all waste in seed and at the same time increase your yield, which means more money at harvest time.

SET TO DROP 3 KERNELS—96%
100 HILLS—4 HILLS 1 FOOT APART, 3 KERNELS

3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3
2	3	3	3	3	3	3	3	3
	3	3	3	3	3	3	3	3
	3	3	3	2	3	3	3	3
		3	3	3	3	3	3	3
			3	3	3	3	3	3
				3	3	3	3	3
					3	3	3	3
						3	3	3

Like a Cash Register

One farmer who witnessed a demonstration remarked: "That planter is as accurate as a cash register. I've never seen anything like it."

All tests were made with ungraded corn. This makes the results more unusual, as the kernels varied considerably in size.

All plates are polished so smooth that kernels slip over the surface easily. Being extra large, they revolve more slowly and corn has longer time to fill the cells before it is forced past the cut-off. Special plates can be furnished to plant peas, beans or almost any kind of seed.

No Clutch on Drill Shaft

There is no clutch on the drill shaft. The driving mechanism is run by the slowly moving main axle and is entirely idle between hills. In other words, the mechanism is in operation only when a hill is being dropped. Thus wear and tear on the implement is greatly reduced.

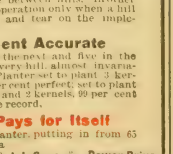
96 to 99 Per Cent Accurate

Not three in one hill, one in the next and five in the third but three kernels in every hill, almost invariably. With the Power Drive Planter set to plant 3 kernels, it dropped 100 hills 96 per cent perfect; set to plant 4 kernels, 98 per cent perfect, and 2 kernels, 99 per cent perfect. Surely a remarkable record.

Saves Seed—Pays for Itself

A J. I. Case Power Drive Planter, putting in from 65 to 75 acres of corn will in a short period of time save enough in seed alone to pay for itself. Investigate this planter before you buy. It will mean a saving in seed and bigger corn crops. Write us today—no cost or obligation.

J. I. Case Plow Works Racine, - - Wisconsin



J. I. Case Plow Works, Racine, Wis.

Tell me how I can save seed and increase the yield with your planter. Send your 1915 Calendar FREE.

Beautiful Calendar FREE

Use the Coupon

Name . . . . . .

Address . . . . . .

POTATO DISEASES

(Continued from Page 31)

colonies should not be planted. Infected tubers will infect soil where planted. The germs of this disease will live in that soil for three to four years. Therefore it is best to rotate the crops. Do not plant potatoes on the same ground several years in succession. To secure and maintain sound seed, free from all disease, each farmer should grow his own seed potatoes in a special seed plot.

Potato Seed Treatment—All seed potatoes should be soaked in a solution of mercury bichloride (corrosive sublimate), four ounces in thirty gallons of water, for one and one-half hours. Formalin treatment will not kill rhizoctonia as completely as mercury bichloride. The solution should be placed in a wooden barrel or tank. It corrodes metal. It should be poured out and made up fresh after it has been used to disinfect four lots of potatoes. It is poison to eat, but not to the touch. Treated potatoes should not be eaten or fed. After the potatoes have been treated they should be stored in new sacks, which have been similarly disinfected in the solution. The above is the treatment recommended by Dr. George R. Hill, Plant Pathologist, Utah Experiment Station.

Methods of Control—On clean ground, plant clean seed this year to grow, in a seed-plot, seed stock for the general field next year.

Select seed potatoes in the field, before harvesting, from hills with healthy vines which give a good, normal number of potatoes of uniform size, true to type and free from disease.

When forced to use bin-selected seed, make careful selection, discarding all potatoes which you find diseased. You must cut slices not over one-eighth of an inch thick from stem end of potato, in search for wilt disease, which works inside the potato.

Get disease-free seed. If you find you have none of your own, and you cannot find it yourself, write to your state experiment station to help locate seed stock free from disease.

Treat selected seed as your state experiment station recommends.

Rotation of crops must be followed, and volunteer potatoes not allowed to grow and carry over the disease.

Use clover, alfalfa or pea land for potatoes when possible.

United, persistent endeavor along these lines will enable us to stamp out these potato troubles as effectively as hog growers of a given district control hog cholera.

"CONFESS!"

The Laird of Waterton, in Aberdeenshire, once sent a sheep-stealer to gaol, in the days when sheep-stealing was a capital offence. Visiting the prisoner the night before the trial, the laird asked him what he meant to do, and the prisoner replied that he intended to confess and to pray for mercy. "Confess!" exclaimed Waterton. "What, man—will ye confess and be hanged? Na, na—deny it to face!" He did so, and was acquitted.

A fiery tongue never glows with light for anybody.

Where are the Pillars of Hercules?

How much barley was imported last year?

Who is the Mayor of Denver?

What is the Aurora Borealis?

How many people are there in the world?

"Look it Up in the Big Almanac"

Yes, look it up—that's where you will find it ninety-nine times out of a hundred. No matter what you want to know, facts, figures, statistics, dates, occurrences of any kind, athletic records, crop reports, geography, government, election returns—"look it up in the big Almanac."

Honestly, did you or any of your family ever hear of J. Whitaker & Sons, Limited, of London? Did you ever hear of "Whitaker's Almanack," or Whitaker's "Peerages?"

I guess not. And yet outside the United States the name of Whitaker is as well known, all over the world, as Webster or Rockefeller or Heinz is here.

For Whitaker is the greatest Almanac Maker in the world. Whitaker's Almanack is the standard of the world—outside the United States. Whitaker goes everywhere—except to the United States. Whitaker's facts and figures are regarded as the final authority—except in the United States. For 55 years Whitaker has published his great year-books. A million copies come from the presses during early January, and go by fast steamers and trains to every civilized land.

A Great British Institution Invades America

And now, for the first time, Whitaker invades America. The first "AMERICAN WHITAKER" appeared in January, for the year 1915. All through December were the mails and submarine cables pouring final figures from America into the great editorial offices in London. By the time the last figures were in, the presses were roaring, and by the 10th of January the great 600-page Almanac was in New York harbor.

THE 1915 "AMERICAN WHITAKER" CONTAINS the greatest mass of accurate and well-digested information ever gotten together in this form. To give a hundredth part of the separate subjects treated is impossible.

Take, for example, your own State. You can find all about its agriculture, its area and population—capital—commerce—debt—education—finance — government—judiciary—history—resources—towns—legal weights, etc., etc. You can do the same for every other State. You can do the same for every country in the world.

The "American Whitaker" will tell you literally thousands of things you may want to know, such as the world's production of hops, fire insurance statistics—horse racing records—mercantile marine—eight-hour laws—electrical measures—number of evangelists—yachting records—baseball information—number of religions and of members of any religion or sect—the highest mountains—the longest rivers—the postal laws—the members of Congress—mayors of cities—retail prices of food—powers of the President—his residence and salary—how he is elected—political parties—Army and Navy—military forces of European nations—Germany, Russia, France, Servia, Belgium, England—all kinds of facts bearing on the great European War.

I could go on with this list as long as you had patience to listen. But I will sum it all up by saying that the "American Whitaker" is the wisdom of ages, brought down absolutely to the present day and hour in a form which in size, make-up, contents, and convenience has never been equaled.

More Than 9,000 Subjects Are Indexed

and the index itself, on paper edged with blue, is easily and quickly accessible. You would actually spend years in the finest libraries of Europe and America, reading and searching, and you would write thousands of letters and consult thousands of people, before you could gather together this enormous mass of valuable information. I tell you, friends, there is nothing else like it in America, and I know it will prove itself valuable in your home every day in the year.

How to Get the "American Whitaker"

It cannot be bought separately—at least not anywhere I know of. The order I placed in London was increased twice, the last time by cable, and nearly all copies have been mailed to Farm Journal subscribers.

I have, however, three or four hundred left, and I plan to send these, in connection with four-year subscriptions to The Farm Journal, to prompt replies to this advertisement. The price of the combination is $1.00, the American Whitaker is mailed postpaid. I will sell only one copy to a person.

The Farm Journal is the standard farm and home paper—standard in the world. It has more than 750,000 subscribers. It is up-to-date, clean, boiled-down, honest. It knows what to say, and can stop when it has said it. It is for the poultryman, gardener, horse owner, dairyman, grain grower, fruitman, the farmer, the villager, the suburbanite, the man who lives in the country, and those who would like to, the women folks, the boys and girls. In short, it is for YOU. Cheerful, entertaining, intensely practical, absolutely clean. When the time is up it will stop.

Cut Out and Mail this Blank

WILMER ATKINSON, Philadelphia, Pa. [(F. N.)

For the enclosed $1.00 enter my subscription to the FARM JOURNAL for four years, and send me by mail, postpaid, the new 1915 "American Whitaker."

My name is .....

R. F. D. .....or Street .....

P. O. ..... State .....

GOODYEAR TIRES REDUCED 45 PER CENT IN TWO YEARS

The Goodyear Tire & Rubber Company announces, effective February 1, another big reduction in Goodyear Tires, the third reduction in two years, or a total reduction of 45 per cent.

"Our present action," says C. W. Seiberling, Vice President, "is entirely logical, and is based on lower cost of crude rubber, the largest factory production in the world, the facilities afforded by ownership of our own fabric mill, our world-wide organization that gives us certain important advantages in purchasing crude rubber, and a desire to continue to give tire users the most for their money.

"Ours is the only company that continues to use the costly wrapped-tread process of manufacture, with the on-air cure—features relinquished with regret by other manufacturers with smaller output, because of the expense attached.

"Goodyear three-inch tires have four plies of the strongest fabric—many others three plies—making our three-inch offering the strongest possible.

"Our 4½-inch tires have six plies of fabric against the usual five. In the 5, 5½ and 6-inch sizes we are using a heavier tread and carcass than ever before, the result being fewer punctures and longer wear."

FREE to the RUPTURED

5,000 Sufferers to Get Free Trial Plapao

No Need To Go Through Life Wearing a Useless Truss

This **generous offer** is made by the inventor of a wonderful **"all-day-and-night"**-working method which is to be used to **tone up** and **strengthen** the relaxed muscles, thereafter **doing away with painful trusses altogether,** and the necessity for **dangerous** operations.

NOTHING TO PAY

To the **first** 5,000 sufferers who write—Mr. Stuart will send a sufficient quantity of the **Plapao without charge** to enable you to give it a **thorough test.** You **pay nothing** for this trial of **Plapao, now, or ever.**

STOP USING A TRUSS

Yes, **stop it,** you know by your **own experience** it is only a **makeshift,** a **false prop** against a collapsing wall, and that it is **undermining your health** because it tends to **retard the circulation of the blood. Why,** then, **continue** to wear it? Here is a **better way,** which you can now **prove for** yourself, **free of charge.**

The PLAPAO-PAD is made of a strong flexible material "E," which is designed to conform to the movements of the body, and be **perfectly comfortable** to wear. Its inside surface is **adhesive** (similar to, yet **quite different** from an adhesive plaster)—to **prevent** the Pad "B" from **shifting** and **getting out of place.**

"A" is the **enlarged end** of the PLAPAO-PAD, which **overlies** the atrophied and weakened muscles to keep them from **giving away further.**

"B" is the properly shaped Pad, to be applied in such a way that it **blocks up the hernial orifice,** and tends to prevent the contents of the abdomen from protruding. Within the Pad is a reservoir. In this reservoir there is placed a wonderful **absorbent-astringent** medication. As soon as this medication is warmed by the heat of the body it becomes soluble and **escapes** through the small **opening** marked "C" and is absorbed through the pores of the skin to **strengthen** the weakened muscles and effect a **closure of the openings.**

"F" is the long end of the PLAPAO-PAD which is to be plastered over the hipbone as part of the frame-work of the body, calculated to give the necessary **solidity and support** to the PLAPAO-PAD.

USED FOR A DOUBLE PURPOSE

First: The primary and **most important** object of the PLAPAO-PADS is to keep **constantly applied** to the relaxed muscles the medication called **Plapao,** which is **contractive** in nature, and taken **together** with the ingredients in the medicated mass is intended to **increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second: Being made self-adhesive, **purposely to prevent** the **pad** from **shifting,** they **have** therefore proven to be an **important adjunct** in retaining rupture that **cannot** be held by a truss.

Hundreds of people, **old** and **young,** have gone before an **officer qualified to acknowledge oaths,** and **swore** that the PLAPAO-PADS **cured** their ruptures—some of them most **aggravated** cases—and of **long** standing.

CONTINUOUS NIGHT-AND-DAY ACTION

A **striking** feature of the Plapao-Pad treatment is the comparatively **short** time it takes to get **results.**

This is because the action is **continuous**—night and day, throughout the **whole** of the 24 hours.

There is **no** inconvenience, **no** discomfort, **no** pain. Yet **minute** after **minute**—whilst you are going **about your daily duties**—even whilst **you are sleeping**—this wonderful remedy is invisibly **infusing** the abdominal muscles with the **new life and strength** they **require** to perform their rightful function of **keeping the bowels** in place without the **artificial** support of a truss or device of any kind.

THE PLAPAO-PAD EXPLAINED

The **principle** upon which the **Plapao-Pad works** can be easily figured out by noting the accompanying illustration, and **reading** the following explanation:

BRINGS ABOUT THESE BENEFITS

The results if successful in following this treatment (**as you can now prove for yourself free of charge**) are **wonderful.**

—The ruptured parts are **sustained** and **held together.**

—The weak **muscles recover** their **elasticity** and **strength.**

The **unsightly,** painful and dangerous protrusions **disappear.**

—That horrible **"dragging down"** sensation is banished, **never to return.**

—You **recover** the **vigor, vitality, energy,** and **strength** you have **lost.**

—You once more are **able to enjoy life without fear** of trouble.

MAKE THE TEST FREE

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Optimistic Note Sounded for 1915

(Continued from Page 2)

more grain or stock, therefore make more money.

Certainly the prospects for farmers getting unusually high prices for all he can raise were never better than now and we feel that he is going to buy all necessary implements to help him raise a large crop.

The farmers have the greatest opportunity ever offered and we feel sure the crop totals for 1915 will show they have all done their best.

Yours very truly,
KITSELMAN BROTHERS.

NO HARD TIMES IN NEBRASKA

We are not having any hard times here in Nebraska. In our business we are receiving unusually large numbers of requests for our Tree and Seed Catalogs, and orders are coming at about the same rate as other years at this time, so it looks to us that business will be exceptionally good this season. I cannot see why the European war should affect our business. Farmers had good crops and are receiving high prices for same. Nothing in it, in this war scare.

CARL SONDEREGGER,
Pres. German Nurseries & Seed House.

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We feel that the present high prices for all farm products occasioned by the European situation, surely will attract more people to the farm, as there never has been a future as bright for the farmer.

Close attention to business and new necessities caused by the existing conditions abroad will keep farm and factory busy.

Opportunity has unexpectedly been

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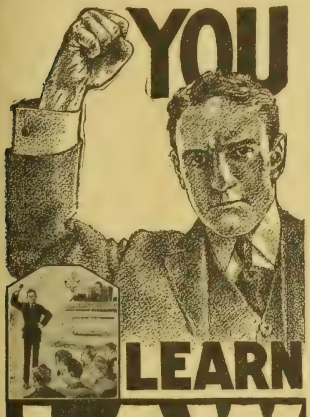

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(Telegram)

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Du Pont Powder Co.

KEPT RIGHT ON GOING

The outbreak of the European war brought substantial proof of the fact that the manufacture of automobiles has become one of the most staple of all the many flourishing industries in the United States.

When the war caused the stock markets of the world to stand still, and forced business generally to assume a timid and watchful-waiting attitude, the automobile industry was closely watched by the whole business world. But the automobile trade, which many thought would feel the worst effects of the war, kept forging ahead as if nothing had happened. The note of optimism in this country was sounded first by the automobile builders.

The outbreak of war has had no appreciable effect on our domestic business. Instead of curtailing our advertising and cutting down our sales force, we kept right on going. Consequently our dealers and our customers have been reassured.

In the five months, starting with the first of last August when war actually started, Overland sales have been greater than ever before in the history of the company.

JOHN N. WILLYS,
President, The Willys-Overland Co.

OUR MOTORCYCLE CONTEST

We want to call your attention to the advertisement of our Motorcycle Contest, which appears on Page 46 of this number. On Page 45 appears the big display advertisement of the kind of motorcycles we are giving away. The same guaranteed quality is back of all of ours.

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Send us your name and address for 24 packages of Bluine to sell at 10 cents a package. When sold return our $2.40 and we will send you this beautiful Violin and outfit just exactly as represented.

BLUINE MFG. CO.
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BOBBIE LEARNS WHAT INOCULATION MEANS

"It's the old story," gossiped old lady Morrow, " 'sparin' the rod and spoilin' the child.' William Shattuck actually makes a chum of his boy. You see one, you see t'other. 'Tain't right, even tho' Robert is an only child. Children should learn to keep their place."

Whenever he heard this sort of gossip, William Shattuck would smile. To teach Bobbie his place was just what he was trying to do. But he thought a boy's "place" is just as close to the hearts of his father and mother as he can be brought. His aim was to make Bobbie instinctively turn to his mother or come to him, his "Daddy," with all his boyish doubts and fears, his hopes and plans, instead of going to others. What was also dear to William's heart was the desire to get his boy so wrapped up in farm work and farm life that nothing could induce him to hike off to the city to look for work as so many farm lads were doing.

Bobbie was only twelve, but he was quite familiar with the simple rudiments of farming. His father was now teaching him the whys and hows of farm practices, such as manuring, liming, cultivating, soil inoculation, etc. And William Shattuck taught these lessons in his own simple way, a way that appealed to the boy's keen, inquisitive mind. Bill seldom scolded, never shot over the mark by using big words, nor did he preach or lecture. Bob was simply his young partner, learning a business in which they were both interested.

That we may see something of farmer Shattuck's tactics when teaching his boy, let us join the family at the breakfast table this morning. The early chores are done; the air is fresh and crisp and laden with the scent of ham, eggs and coffee.

"Here you are, Bobbie," says Mrs. Shattuck; "I hope you and your Pa will appreciate these eggs, for down to the store I can get twenty-six cents for a dozen of 'em."

"Gee whiz, Ma," responds Bob, "you make me feel like a bloated bondholder. Say, Daddy," he continued, "what's on the ticket for today? What do you want me to do?"

"Well, the first thing we must do is to inoculate the alfalfa seed I bought last week and get it all ready for plantin' this afternoon."

"You've got me, Dad. What's inoculating mean? Sift it? Test it?"

"No, Bob, inoculatin' alfalfa seed means to cover the outside of the seed with a lot of alfalfa bugs called bugs, or bacteria, just before you put the seed in the ground."

"Mercy me!" cried Mrs. Shattuck. "A nice subject for the breakfast table. Talk 'inoculation' out in the barn, William. You give me the shivers."

"Nonsense, Mary. Why, these germs are so useful we couldn't live without 'em. They're health germs, not disease germs. They're our friends and not our enemies."

The boy's eyes glistened with curiosity as he asked:

"But, Dad, what's the use of these bugs? What good do they do? Where did you get 'em? Why——"

"Hey, there!" cried his father. "One at a time." But he was pleased with his boy's enthusiasm, and noted with pride that his questions were direct and to the point. As he once told his neighbor, Jed Perry, "Bob's an inquisitive kid, but he's no hand at askin' fool questions."

"Before I answer your questions," William continued, "you answer some of mine. We've got a five-acre field ready to seed to alfalfa. What did we do to it first?"

"We plowed it."

"Then what?"

"After the land settled we disked and harrowed it to beat the band."

"Why did we do that?"

"Why," Bob scratched his head. "Oh, yes, I remember. To kill off weeds. To get air into the soil. To make the soil as fine as possible so that when the young plant is growing its roots won't bump against any hard chunks."

"That's good. Now, what else did we do?"

"We found the soil was sour, so we put lots of lime on it to make it sweet."

"Correct. And now it's time to tell you why the soil for alfalfa must be sweet. Another cup of coffee, Mary, and don't you listen if you're not interested."

"But I am," said Mrs. Shattuck. "Remember, I'm going to raise a heap more chickens for market the minute you can give me alfalfa to feed 'em—that is, if the germs won't hurt the chickens."

"Never fear," laughed William. "Alfalfa, Bob, is a funny plant. It won't grow alone. It must have the help of its little friend, the alfalfa germ. But this germ must have sweet soil to live in. Sour soil kills it."

"I see," cried Bob. "We cultivated the soil so as to make it the right kind of a home for the alfalfa plant and then we sweetened the soil so as to make a comfortable home for its hired man, the bug."

"That's it," said his father, "except that the bug, as you call it, is more of a partner than a hired man. Now, when their home is all right these two get busy to give man a big bumper crop of alfalfa. The duty of the plant is to shoot out its roots and suck up the plant foods in the soil."

"Plant foods?" asked Bob.

"Yes, I'll tell you about them later. There ain't time this mornin'."

"You're right, William," Mrs. Shattuck chimed in, "We mustn't gab here too long; I've lots to do this mornin'."

"What does the germ do?" asked

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Bob, eating slow so that his father might talk longer.

"I'm comin' to that," answered Mr. Shattuck, "and you must listen close while I give you some preliminary facts that will make the subject of inoculation as plain as day. Many farmers don't understand inoculation and it's 'cause they don't know these facts. Let's go back to the germ. Before it can help the alfalfa plant it must be in the soil as close as possible to where the alfalfa seed is planted. The seeds sprout into baby plants. And then, as I've told you, each plant shoots out its root-hairs into the soil, reachin' for food."

"Same as I do—with my two roots—at Ma's table," said Bob, reaching for a slice of bread.

"That's the idea," chuckled William. "Let's say that you are a young plant with your two arms for root-hairs. And like a plant you can't move around. You've got to sit at this table all your life. Ma brings you food from the pantry—ham, eggs, potatoes, bread and other foods to make you grow."

"I see," said Bob. "I am a young plant and Ma, here, is the farmer that feeds me. She takes food out of the pantry, the soil, and puts it on the table where I can reach it with my arms, or plant roots. Am I right?"

"Yes, my boy, and when the pantry runs out of any food you need, Ma must replace it. She must always keep the pantry full or you will not grow big and strong. Now, what does this comparison mean? It means that us farmers must keep our soils supplied with all the necessary plant foods and that these foods must be where the plant roots can reach 'em, otherwise we can't grow big, profitable crops. This rule holds good with all plants, but with alfalfa—and her sister plants, called legumes, which I'll talk about some other time—we must go one step farther. Alfalfa will take all its food from the soil except one, and that is nitrogen."

"What is nitrogen?" asked Bob.

"Well, I've only time now to tell you this: It's the most important of the plant foods and costs most. Without it no soil is fertile and without it no plant will grow. It don't help matters that four-fifths of the air is nitrogen because most plants must be fed nitrogen taken from the soil. But alfalfa is different. It sickens, turns yellow and dies off unless fed on air nitrogen. How do you suppose it gets it?"

"Well, Dad, you've said that air circulates in all cultivated soil, so I s'pose the alfalfa roots suck the nitrogen out of the air that's in the soil."

"No, Bob, it is the germ that does the business. It crawls into an alfalfa root-hair and builds a home—which we call a nodule—about the size of an alfalfa seed. When it does this the plant is said to be inoculated and so you know now just what this big word inoculation means. In its nodule the germ grows a great big family that often numbers millions. If you pull up a

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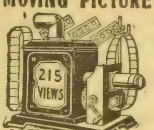

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healthy alfalfa plant you'll find a lot of these nodules on its roots."

"In their nodules," continued Mr. Shattuck, "the germs are able to do what no other living thing on earth can do—they can take nitrogen out of the air and turn it into the food that makes alfalfa grow. And think of the good this does! This air nitrogen feeds the germs, feeds the plants and feeds the soil."

"How does it feed the soil, Dad?"

"The nodules are filled with germs and stored-up nitrogen which the plant doesn't need. When they decay all this is deposited in the soil, makin' it more fertile."

"How big are these germs?"

"Mighty small, Bob. You can't see 'em without a microscope. Put four or five thousand in a row and they wouldn't be an inch long."

"But where do you get these germs, William, and how do you get 'em into the soil, so they will crawl into the alfalfa roots?" asked Mrs. Shattuck, helping Bob to a glass of milk.

"When I was in town last week I bought both my seed and my germs of Jim Blakely, the seed man. I wanted the best, so I went to Jim. Jim carries the "nitragin" germs and guarantees they are all O. K."

"Nite-ray-gene?" interposed Bob. "What a queer name. How do you spell it, Dad?"

"N-i-t-r-a-g-i-n is the way they spell it, but it is pronounced 'nite-ray-gene.' Now, I had read somewhere that Nobbe and Hiltner, two big scientists in Germany, were the first to put these germs on the market and that their product was called 'nitragin.' So I says to Jim, 'Do you guarantee these germs to be the Nobbe-Hiltner brand?' And Jim said, 'You bet I do, Bill.' That was enough for me. So I told Jim to give me 100 pounds of alfalfa seed, enough to sow five acres, and one 5-acre can of 'nitragin.' To get the germs in the soil, in the right place, all I've got to do is to empty my cans into some water and pour the mixture over my seed. The germs will stick to the seed. When I sow, the germs will go into the soil with the seed and be right on hand to inoculate the roots the minute they begin to shoot out. It's as easy as pie. Come out in the barn, Bob, and I'll show you how simple it is to use these 'nitragin' germs. Next time, you will be able to inoculate seed without my help."

"I'm with you, Daddy," shouted Bob. As he followed his father out the door he turned to his mother and said:

"This germ from Germany is some bug, eh, Ma?"

"Go long with you!" she answered. Alone, Mary Shattuck smiled to think how her Bobbie's deep interest in everything pertaining to the farm would doubtless keep him from even hunting a job in the city.

Ten Apple Trees Free

Delicious

The famous new apple, best flavor, finest quality known, has been sold on Chicago fruit stands as high as 50c Each.

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I'm a crank on the subject of fruit-growing. That's why I'm editor of Fruit-Grower and Farmer. And apple culture is my hobby. No crop is surer or pays better—as staple as wheat or corn—if grown by modern methods. Telling of these methods through the columns of this paper is my life-work. I want to create a greater interest in orcharding, and am determined to get 50,000 more subscribers at once. These facts explain why I offer you ten apple trees, just as I say—

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ORDER BEFORE SUPPLY IS GONE. There will be a great run on this offer, so get YOUR order in first. This offer good in United States only. Send your address on coupon with $1.00 for a year's subscription and you get the ten trees free, prepaid to your home. Act NOW. Mail YOUR coupon today.

E. H. FAVOR, Editor

Fruit-Grower and Farmer

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504 8th St., St. Joseph, Mo.

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For $1.00 enclosed, send Fruit-Grower and Farmer one year. Also send, free, prepaid, two trees each of Delicious, Stayman Winesap, Jonathan, Wealthy, Yellow Transparent.

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Spraying in the Orchard

(Continued from Page 6)

branches, which are eventually killed. Treat as for scab; prune and burn all dead limbs and twigs; cut out and paint over large cankers when found.

Fruit Speck—Form more or less numerous small brown or black spots, starting at surface of fruit and slowly working inward; the true fruit spot often has a pinkish or purplish border in light-skinned varieties. Due to various fungi. Usually controlled by spraying as for scab.

Rust—This shows as orange-colored blotches on leaves, eventually producing minute fringed clustered cups imbedded on the under side; less frequent on fruit. Rust spreads to the apple from the cedar apples, which appear in the early spring on the red cedar. All cedars near the orchard should be destroyed. There is great difference in the susceptibility of different varieties to this disease. Spraying is only partially successful, as the leaves must be well coated continuously with spray from the time they begin to unfold until the end of July.

Scab—Produces scabby spots on fruit and leaves; rarely on twigs. Spray the unfolding leaves before the blossoms open, again after the petals fall, and follow with a third spraying about four weeks later. For first treatment, use strong Bordeaux, for second and third, weak Bordeaux or lime-sulphur.

Sooty Blotch—This forms on fruit an olive-black superficial growth in distinct round colonies, or often merging together. Spray with Bordeaux as for scab, or with lime-sulphur, 1 1-2 to 50.

PEACH

Peach Saw-Fly—Larvae defoliate trees in June and July. Spray with lead arsenate.

Peach Borer—Larvae tunnel into the base of the trunk. Dig out in late fall and early spring. Paint base of trunk with lead arsenate and lime-sulphur.

Fruit Bark-Beetle or Shot-Hole Borer—Makes minute tunnels under the bark of branches and trunks. Burn infested trees and keep others thrifty.

San Jose Scale—Minute scale insects, with circular shell, which suck the sap from twigs, fruit and leaves. On fruit a red spot surrounds each insect. Spray dormant trees with lime-sulphur.

Aphis or Louse—Sucks the sap from leaves. Spray with nicotine solution.

Brown-Rot—Occurs on the young twigs, etc., but causes most serious injury to the fruit, rotting it about the time of its maturity. The rotten areas usually become covered with numerous pustules of dusty brownish spores; eventually the diseased fruits form hard mummies. These mummies carry the fungus over the winter, and, if half buried in the soil, develop in early spring the mature stage, which causes infection of the blossoms, etc. Certain early varieties, like Champion, etc., are especially subject to rot. This fungus occurs also on plums and cherries and less commonly on pears and apples.

Leaf Curl—Causes young leaves to become irregularly curled and swollen and finally to drop off; rarely on fruit. In April, as soon as buds begin to swell, spray the trees thoroughly with commercial lime-sulphur.

Scab — Produces roundish, black-brown spots on fruit, discolored areas on the young twigs, and rarely "shot-holes" in the foliage. Two treatments with self-boiled lime-sulphur, or atomic sulphur, upon the fruit after the setting and when half grown (about the middle of May and June), will control this trouble.

Winter Injury — Shows in various ways. In severe winters, especially when the ground is bare, the roots may be killed without injury to the parts above ground. In spring such trees put forth a scanty, sickly foliage that soon drops. Sometimes the injury occurs in the form of a "collar girdle" in the bark at thebase of the tree. Frequently it occurs above ground in the wood (shown by its blacker color), with or without injury to the bark. When the bark is not injured, severe pruning in the spring will often save the trees. Nursery trees can sometimes be cut back to the snow line, below the injury, and an entirely new, healthy trunk started. Avoid late applications of nitrogenous fertilizers and cultivation after middle of July. Mulch base of young trees in late fall with vegetable or earth mulch. Secure good drainage.

Yellows—Causes premature ripening and red spotting of fruit, with yellowish, often curled leaves, and in time spindling sprout growths in bunches on the trunk. This is claimed to be a contagious disease, but is apparently physiological in nature. Root out and burn all trees as soon as found.

CHERRY

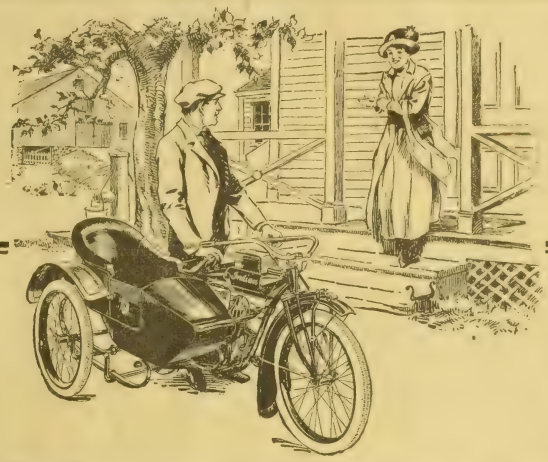
Leaf Spot—Shows as numerous closely placed purplish spots on leaves, which often have "shotholes." Spraying, if begun on young leaves early in May, is effective in preventing this disease, but use the dilute Bordeaux, or better still, self-boiled lime-sulphur, to avoid injury to the foliage. Give several sprayings at intervals of two weeks. This helps to keep down the brown rot also.

Cherry, or Pear Slug—Larvae eat away the green tissue from upper side of leaf. Spray with lead arsenate or hellebore.

Cherry Maggots or Fruit Flies—Larvae of two species which infest maturing fruit. Sprinkle foliage with sweetened lead arsenate in early June to kill adult flies.

Cherry Aphis—A brown plant louse which sucks sap from under side of leaves, causing them to curl. Spray with nicotine solution, soap and water, or kerosene emulsion.

Black Knot—Forms knotlike excresences, usually several inches long, on twigs and branches. When planting use only trees free from this trouble. In the orchard cut off and burn all infected branches in late fall or winter, painting over large cut surfaces. Cutting out knots is rarely advisable, as new outbreaks usually result. In cutting off cut several inches below knot, to insure removal of mycelial threads in the tissues. Keep up removal of all knots each year until they fail entirely to reappear. Spraying in spring and early summer with self-boiled lime-sulphur or atomic sulphur helps to keep the knots from fruiting, but is entirely secondary in importance to the removal of the knots.



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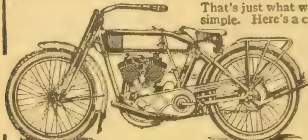

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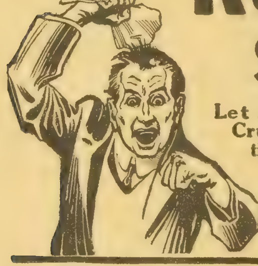

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AN ESSAY ON SOAP

Soap is one of the distinguishing marks of civilization. Smokeless powder is the other.

Soap does to dirt what a cat does to a flourishing colony of mice. Place a large T. cat with a good appetite in the midst of a mouse mass meeting, and in a short time the rodent census will not be worth taking. Place a cake of soap in the vicinity of a week's collection of grime, and the latter disappears down the drain pipe in great fear.

The savage may have a good heart and a pleasant disposition, but because he is not intimately acquainted with soap, he is received with reluctance as a neighbor by the fastidious white man and is asked to stand slightly to leeward, particularly on a warm day. The said savage lives happily in a last year's bath and an old flour sack until he acquires the soap habit. After this he achieves pants, underwear, an Ingersoll watch, a passion for moving pictures and a good understanding of the machine gun and ward politics.

Soap is not a natural but an acquired habit. It is not relished by the very young except as food, and even in this capacity it does not retain its popularity. After a baby has reached joyfully out for a beautiful, translucent cake of pink soap and has gorged his system on this delicacy, he acquires a distaste for the substance which frequently lasts all his life.

Soap is made of oils and alkalines and dissolves the tender outside skin, which can then be rubbed off with a towel, leaving a fresh, new coat underneath. However, to the average boy of eight to twelve, soap is made of nitric acid and bites right through the skin into the heart. Those who have seen a terror-stricken male child shrieking with agony while his implacable mother is rubbing soap on his ears are not impressed with the mild sufferings of the inquisition.

The more refined and industrious the citizen, the more soap he consumes. The less refined and energetic he is, the more he shuns it and looks upon it with ill-concealed nervousness. One small cake of soap will last a tramp a lifetime. Tramps are very careful of their hands and faces and do not want the nice, tender integument broken up and removed with the dirt. They prefer to remove the inside coat and sometimes the vest of the stomach with forty-rod whiskey.
—Judge.

AN AUTOMOBILE LEXICON

Shock absorbers — Articles calculated to offset the profanity produced by blowouts, punctures, skidding, etc.

Transmission—Refers to the transferring of money from the car owner's pocket to that of the repair man.

Clutch—Should always be used in the plural. Refers to a prospect of getting into the clutches of the agent.

Garage—Synonym for beehive, i. e., a place where the auto owner gets stung and listens to honeyed words of wisdom (?).

Spark plug—The chaperon when she sits in the tonneau.

Battery—Usually coupled with assault in case of traffic accident.

Cut-out—Refers to non-owners, since each feels that he is cut out to be an auto owner.

Center control—Occurs whenever a road hog occupies the middle of the highway and refuses to allow his fellow-autoists in the rear to pass.

Bearings—These are hard to keep when en-tour, due to rural misinformation bureaus.

Spokes—Refers to spokeswoman of an auto party—usually a suffragette.

Traffic cop—The non-missing link between speed violation and sunrise court.

Punctureproof—Refers to the garage man's heart.—Judge.

THE REALITY OF WAR

Mr. McGovern, a heavyweight gentleman of London's East End, who had never been known to work, but who nevertheless has added to the population of the earth in figures up to ten, suddenly became heroic and enlisted. The following dialogue took place between Mrs. McGovern and a lady, Mrs. McGovern being happy and complacent in the receipt of her 27 6 from the war office:

Mrs. McGovern—Good morning, miss.

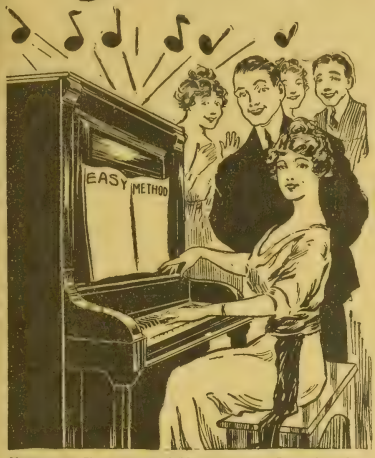
Lady—Good morning, Mrs. McGovern. I hear Mr. McGovern has gone to the war.

Mrs. McGovern (cheerfully)—Yes, miss.

Lady—Well, Mrs. McGovern, what do you think of this terrible war?

Mrs. McGovern—Good God, lady! I hope it will last forever!—Judge.

Learn to Play Piano or Organ in One Evening!



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In this hurrying, busy twentieth century, people cannot afford to take several hours a day for several years in learning to play. They demand something easier, a shorter, simpler way—and this "Easy Form" Music Method is the result. Any person of ordinary intelligence can now sit right down and play without any lessons or special training. Just read the simple directions, turn to the selection you most fancy in the big volume of music, and play it.

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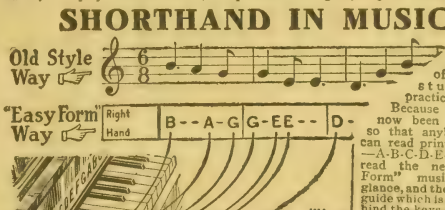
The "Easy Form" way is simplicity itself. No puzzling marks to study out, no mystic symbols and Chinese-looking characters to confuse you. With this new method you don't have to know one note from another. Yet in a single evening you can play your favorite music with all the fingers of both hands, and play it well. It's so simple that it might justly be called

SHORTHAND IN MUSIC



No more spending of years in study and practice. Why? Because music has now been simplified so that anybody who can read printed letters—A-B-C-D-E-F-G—can read the new "Easy Form" music at a glance, and the keyboard guide which is placed behind the keys shows you where to put the fingers of both hands on the right keys every time.

No chance for failure, anyone can learn quickly. Young children and old people learn to play in a few hours and amaze and delight their friends.

Note how simple this is compared to the complicated old-style music, where a beginner couldn't even find the right key.

You don't have to take anybody's word for "Easy Form," either. We think the best way to prove it is to let you, yourself, be the judge. You can't doubt its value when you have learned to play by this method in a single evening.

Therefore, we have decided to show our faith in "Easy Form" by sending the complete system—full instructions—100 pieces of standard music (all the favorites) and keyboard guide—upon receipt of the coupon, without asking for a cent of money.

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We have thousands of letters like the ones printed below, telling how quickly and easily people who didn't know one note from another learned to play by the "Easy Form" Music Method. It is so simple that there is no chance for mistake or failure—and the trial is absolutely FREE.

LEARNED 100 PIECES IN ONE WEEK

I have had "Easy Form" **one week and can play any piece in the book, correctly.** I am very much pleased with it.
ELEANOR EVERETT, Box 612, LaGrange, N. C.

LEARNED ONE PIECE A DAY

I have learned eight pieces of music in seven days.
MISS LINNIE WALKER, Buckner, Arkansas.

LEARNED SIX PIECES IN ONE HOUR

I have practiced only about an hour and can play a half dozen pieces of Easy Form" music. The instructions are very simple and I like it. Have tried the old way, but find this much easier.
FANNIE LEE RICH, Alma, Georgia.

MUCH EASIER THAN EXPECTED

I found your "Easy Form" just as you said. I think it is great and much **easier than I thought.** I do not doubt a firm when they will send their goods before they get their money.
E. R. BARNES, R. F. D. 2, San Marcos, Tex.

PLAYS 11 PIECES IN A WEEK

I received "Easy Form" music last week and am much pleased with it; it certainly is far ahead of note music. I can play eleven pieces from "Easy Form" already, and I find it so easy. Wishing you success.
DANIEL A. McDONALD, Box 83, Waterford, N. S.

MOST COMPLETE METHOD EVER KNOWN

I received "Easy Form" music and **played several of the pieces right away.** It is the most comprehensive method I have seen. I enclose payment in full.
D. GOLDBAUM, Box 22, Ensenada, L. C., Mexico.

BETTER THAN SEVEN YEARS OF LESSONS

Have had "Easy Form" four weeks and was out of town one week. I practice about fifteen minutes daily, and can play several pieces as good as my sister-in-law, who has taken lessons seven years.
MRS. ARTHUR I. VAN KLEEK,
1620 4th Ave., N. Mason City, Iowa.

SAYS "EASY FORM" IS WONDERFUL

I think "Easy Form" is wonderful. I am glad I have found a way to learn and not be bothered with a music teacher.
MRS. BENJ. PITCH, 538 S. Chicago St., Joliet, Illinois.

SEND NO MONEY

We don't want your money until you have given "Easy Form" a trial and concluded that you want to buy it. Keep the system for seven days, test it, see how easy it is to play. Then if you can bear to part with it, return it in seven days and owe nothing. If you want to keep it (as you will), it will only be necessary to send us $1.50 at once. The balance may be paid in small monthly payments until the total price of $6.50 is paid. Remember, you are the judge. If you don't want to buy the "Easy Form" system, after using it for seven days, you will not be at even a penny's expense. But don't delay. Send the coupon now—today—while this remarkable offer remains open.

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Please send me the "Easy Form" Music Method, complete, with 100 pieces of Music by mail, postpaid, for a seven-day FREE TRIAL. If I am satisfied and want to keep the system, I agree to send you $1.50 at the end of the trial period and $1.00 per month thereafter, until a total of $6.50 is paid. If not satisfied, I will return the system to you, and I am to be at no expense whatever for the trial.

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Do you play old-style note music?.....

How many white keys are on your piano or organ?.....

I'll Send You This Big Can of CORONA WOOL FAT Post Paid

SIMPLY mail me the coupon below and I'll send you this big can of ***Corona Wool Fat***—the greatest preparation ever put on the market for Cracked and Split Hoofs, Contracted Feet, Corns, Grease Heel, Thrush, Barb Wire Cuts, Sore Shoulders, Sore Teats of Cows, etc. I want to prove to you ***before you pay me a single cent,*** that here is a preparation you can't afford to be without. I want to send you, postpaid, this big can of ***Corona Wool Fat*** on

20 Days' Free Trial

I want to show you that you can keep your horses' hoofs in the finest condition with it—take out all foot soreness, cure all flesh wounds, etc., and do it quickly.

I want you to try this wonderful healing ointment at my risk—not yours. Try it on any case you have—apply part or all of it. At the end of 20 days if you are perfectly satisfied, send me only 50c for the big trial can. If you are not satisfied, tell me so and you won't owe me a penny.

Corona Wool Fat

The Wonderful Healing Ointment

is extracted from the skin and wool of the sheep and is the only remedy that will penetrate the shell of a horse's hoof—take out the soreness and grow new hoof. ***Corona Wool Fat*** does not burn, blister or cause suffering. It is a cooling, healing, penetrating ointment, quick in action, ***heals without leaving a scar.*** Read these letters—we have thousands more like them:

Corona Mfg. Co., Kenton, Ohio.
Gentlemen—Corona Wool Fat is the best thing I have ever used for hard and contracted feet of horses. I have used about all kinds.
Yours truly, P. D. Jamison, Bridgewater, Maine

Corona Mfg. Co., Kenton, Ohio.
Gentlemen—I like Corona Wool Fat. I think it is fine to heal sores and cuts, and can truly recommend it to any one needing a good healing salve.
Yours truly, Dewitt Conrad, 23 State St., Fort Plain, N. Y.

SEND NO MONEY — SIMPLY MAIL COUPON

Fill out the coupon and mail it today. When you receive the ***Corona Wool Fat***—try it—watch results—then if satisfied send me only 50c—if not satisfied, just write and tell me so and I'll charge you nothing. Write for the big trial can ***now.*** Remember, I send it ***postpaid.*** You risk nothing in testing it. ***Will keep your horses in working condition and put them in selling condition.*** I take all the risk.

Corona Mfg. Co., C. G. PHILLIPS, Manager **14 Corona Blk., Kenton, O.**

Cracked Hoofs Before and After Using Corona Wool Fat

Corona Heals Barb Wire Cuts Smoothly

Grease Heel Before and After Using Corona Wool Fat

For Collar Boils and Sore Shoulders

IT WILL CURE

Hard and Contracted Feet, Mud Fever, Split Hoofs, Corns, Grease Heel, Thrush, Quarter Crack, Cuts, Barb Wire Wounds, Sore Teats of Cows, Ulcers, etc.

Our Guarantee is on the Lid of Every Can.

I have sent out over 1,000,000 cans the past eight months, and now have more than that number of satisfied customers. You need it; I have it for you, and you can try it out on the "before you pay" plan. Now, all I ask is a fair, square trial on its merits. *C. G. Phillips.*

PROOF!

Corona Mfg. Co., Kenton, Ohio

Dear Sirs:—I have received the Corona Wool Fat all right and have tried it and it works just as you recommend and even better. My horse was sore in the front feet and she could hardly get out of the barn, and in two weeks time she improved so much that she was as limber as ever, and our blacksmith stated that he never saw anything as good as Corona Wool Fat.
Sincerely T. J. Tishell, North Rush, N. Y.

Corona Mfg. Co., Kenton, Ohio

Dear Sirs:—I have had several cans of your "Corona Wool Fat and it has given good satisfaction, and as I was unable to get any in this section I wrote to you. Please send me price list of your Corona Wool Fat Ointment. I used it on a horse that had a very bad quarter crack, and by spring it was grown down and clear out, and I never let him stand a day with it. I think it is the best preparation I ever used for all kinds of sores. Fred Stout, Monroe, N. J.

Corona Mfg. Co., Kenton, Ohio

Dear Sirs:—Having been in the dairy business all my life and as all dairymen will agree it is a hard matter to keep their horses going sound. I with the help of the shoeing smith were kept at our wits end until a friend of mine told me of Corona. It certainly does the work. Every horse is going sound and when it comes to sore teats on cows, you have certainly solved the problem. In fact, my stable and barn boys all swear by Corona and the best part of it is, it is just as good for a man as for a horse or cow.

Wishing you the success that is due you, I remain,
Yours very truly,
Robt. T. Armil,
Prop. Oakwood Dairy Farms,
Davenport, Ia.

20 Day's FREE TRIAL COUPON

CORONA MFG. CO., 14 Corona Block, Kenton, Ohio

Gentlemen:—Please send me the trial can of your Corona Wool Fat. It is understood that I am to use this for 20 days in accordance with directions, and if I am satisfied with the results I will send you 50 cents to pay for it. If it does not do as you claim I will owe you nothing.

Name .....

Address .....

County .....

State .....

Ointment you intend to test it on.....

Galled Shoulder

Fill Out the Coupon NOW

Before and After a Bad Case of Scratches

Heals Inflamed Cows Udders

1,000 000 Farmers, Stockmen and Blacksmiths are using Corona Wool Fat. Don't be persuaded to make sure of a quick cure. Insist on Corona Wool Fat. I have no other remedy or healing ointment that will do the work as well. C. G. PHILLIPS

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FARM NEWS

OF THE
UNIVERSITY OF ILLINOIS
5 APR 1915

All that is New and Best for the Farmer

APRIL Springfield, Ohio 1915

Be Sure to Read Our Cash-Prize Offers on Page 3

With the Editor

MISGUIDED ECONOMY

During periods of business depression railroads and industrial concerns cut down expenses until efficiency is greatly impaired. In order to pay interest and dividends the capital is squandered, labor force demoralized, plants and machinery, roadbeds and rolling stock allowed to run down and deteriorate in value and efficiency. If the depression continues for any considerable length of time, things reach a condition where new capital must be had to reorganize the business and put it on a paying basis. When times are good efficiency is the slogan. When a depression comes economy is the watchword.

This vice or virtue of commercialized America has touched the farm. The tendency of farmers during the present business stagnation is to cut down expenses and impair efficiency. They have become inoculated with the germ of pessimism, and are not doing their share toward encouraging a feeling of security and optimism. Never was there a time when so many eyes were turned toward our crop reports as today. Likewise, never was there a time when prospects were brighter for high prices.

To say that now is the time for farmers to spend every dollar possible to increase the efficiency of their business is not to invite a reckless spending of money. It is merely to call attention to the fact that high-priced land, labor and produce make a combination that demands first of all big crops and immense quantities of finished products. It means get results cheaply as possible, but get them.

If a $200 stock will make the $15,000 farm carry one-third more stock do not hesitate to build one. If the corn crop on 100 acres of land can be increased 25 bushels to the acre by the expenditure of $3 per acre for fertilizers and better cultivation it will sound more like business to buy fertilizer and cultivators, and get after the 25 bushel per acre increase. Anything that adds to production, utilizes investment, saves labor and increases profits is the end to seek.

Farmers who are planning to avoid expense by using old and inefficient implements are going to lose money through neglecting to increase crop yields when high prices are in sight. An inefficient tool is a time-killer and profit-sinker of the worst sort. Men who go out and buy cheap implements or buy repairs for old and nearly played-out machines are liable to suffer loss and vexation of spirits before the season is over. Last year the rule of economy said for us to spend $16 for repairs and two days' time tinkering up an old grain binder, thinking that it would do for another year or two. By the time we had cut four acres of wheat other parts began to break, and before the harvest was over we lost enough grain to have paid for a new binder, and all we had to show for it was some scrap iron and receipted bills for about $23 worth of repairs. Economy in that case was the worst kind of waste.

The thing of value is what we are all looking for. But the great trouble is, that in looking for the big thing we overlook the great number of little things lying about us, which in the aggregate, equal and sometimes exceed, the big thing. No pig ever found an acorn looking up the tree.

When the government has been in the parcel post business as long as the express companies it will know more about what the public needs. In the meantime give the government a chance to perfect its methods.

The only political issue before the people of this country is that every man be afforded an opportunity to work at a profitable wage. With such a condition prosperity will take care of itself, and us with it.

When yesterday's duties stick their heads in amongst those of today they crowd the quarters.

A filthy tongue never manures any poor knoll, but it always points to a poor knowledge.

Just as soon as some men get boys big enough to trust they learn how to take life easy.

He who never had temptations to overcome has never travelled any on the upward course.

The more alfalfa folks grow on their farms the less you see of it on their faces.

To despair is to put an utterly false and foolish estimate upon the meaning of life.

A beautiful DAN PATCH Picture free. See page 13.

"STAR—A Good Thing to Pass Along"

Men Who Chew Are Men Who DO

LOOK at Woolworth's, New York, the world's tallest building. Each of its fifty-one stories was a "job" that required clear thinking, accurate action—the highest mental and physical powers. And the majority of the men engaged in the work were tobacco chewers.

Wherever buildings are being erected you'll find men chewing and boosting STAR, the great American tobacco.

You'll like the thick tasty STAR plug, that gives the utmost in mellow chewing satisfaction. You'll find that a STAR plug won't dry out like a thin plug and you'll like the honest weight—each plug a full 16 ounce pound—all the time.

So many men who "do" are men who chew STAR that *one day's* output would build a STAR plug as high as the Woolworth building and 23 feet broad.

16 oz. Plugs

10c. Cuts

STAR

CHEWING TOBACCO

LEADING BRAND OF THE WORLD

Liggett & Myers Tobacco Co.

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Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV **APRIL, 1915** **Number 4**

CASH-PRIZES—AUTOMOBILE CONTEST

Hundreds of Answers Received in Response to Our Liberal Cash-Prize Offer for "10 Best Uses of Automobile"

MODERN CONVENIENCES ARE NOT LUXURIES BUT NECESSITIES

(First Prize $10.00)

By Jay Lawrence, Ohio.

First—Modern conveniences are not luxuries, but necessities, and the farmer who fights the new and clings to the old has but himself to blame if success does not perch on his doorstep, but instead, the boys and girls leave the farm. So I would put this as the best practical use, ahead of all others. This is one of the great problems before the American farmer today, and I have yet to see the farmer's son who leaves a father who owns an automobile.

Second—The motor car makes it possible to derive returns from certain things that would not otherwise be possible. For instance, in early spring many farmers have a surplus quantity of celery, rhubarb, asparagus and other vegetables, of such quality as to demand an extra price, provided they can get them to town by 6 or 7 o'clock. With an automobile a farmer can get such things to the market in a few minutes, while the dew is still on, and when he gets back the team in the barn is ready for work. It is a money-maker in this sense, that a farmer can place every little article of produce on the market in such a short time that it pays to market everything salable. At the same time he can kill two birds with one stone by bringing back a load of supplies, empty cream cans, etc.

Third—When it comes to marketing eggs, butter, cream, milk, etc., the automobile is right there, as it saves quite a lot of valuable time on each trip, and then with a car a farmer will market his produce and get top prices.

Fourth—It is the common saying, that to operate a truck and vegetable farm one must live within sight of the city. But with the coming of the automobile it is possible to live several miles out of town and operate a truck farm successfully. It is quite often that ideal conditions for a truck farm are found quite a distance from the city. By putting a platform on the rear of the car one can haul on most cars, from 1000 to 1500 pounds. These statements are also true in regard to any special line of farming, such as, poultry-raising, fruit-growing, etc.

Fifth—The auto is a great time saver, and time is money on a farm, especially in the busy season. If a farmer is busy harvesting his crop and happens to break some small piece of machinery he can jump into his auto and make the rounds of several hardware stores and machine shops in order to get the necessary repairs. Otherwise he will often have grain and other produce go to waste.

For illustration, two years ago, we were cutting wheat, and we broke a small part on the binder. At that time we did not have an auto and we waited for the next day's mail to bring the repairs. Before we were ready to start a severe hail and thunder-storm set in. This lasted for about a day, and before it was solid enough to go into the field it stormed again. We estimated our loss at from $75 to $100.

Sixth—It is often of great practical use in time of sickness or accident. Often some member of the family may be taken suddenly ill, and a physician's help is needed at once. The chances are

(Continued on Page 38)

A Fine Book FREE

"Why Do You Stay at Home?"

This is the title of a rather unique and very beautiful and artistic little volume, just off the press, and ready for free distribution. This interesting book should be in the home of every farmer. It is beautifully printed in colors, and contains more than thirty FREE pictures and illustrations, all drawn by the best and highest-priced artists.

The book is written in a new and attractive way, happy ideas and new phases of life on the farm. It is free—it will not cost you a cent. Just write to The Editor of Farm News, Springfield, Ohio, and say that you want a copy of the book, "Why Do You Stay At Home." It will be sent free and prepaid. Don't be bashful.—The Editor.

A Present for Every Man and Woman Reader of This Paper Costs Nothing to Obtain It. Open to All

To every man who counts the correct number of times the word "SEND" appears in the advertisements in this issue of Farm News, and sends us his answer we will give a handsome Hard Rubber, Chased Barrel Fountain Pen, with a 14 karat gold plated pen point—a gift for which every man who reads Farm News should try. This is a pen of genuine quality, and one of which every recipient will be justly proud. To each woman who sends us the correct number of times the word "SEND" appears in the advertisements in this issue of Farm News we will send a Free copy of our 64-page Fancy Work book, containing scores of illustrations with instructions for making lace and all kinds of fancy work—a book every woman should have.

REMEMBER there is nothing to pay, no money to be sent. Just count the number of times the word "SEND" appears in the advertisements in this issue of Farm News, and send in your answer to the Send Editor, Farm News, Springfield, Ohio. Contest closes May 10.

SPECIAL PURPOSE OR NO PURPOSE

The Pure-Bred Animal, True to Type, Always Tops the Market

By H. A. Bereman

SCRUB live stock is the curse of agriculture in America, and little headway will be made against the whole tribe of mongrels as long as cattle breeders tolerate the dual-purpose idea.

The argument for a pure-bred animal is that it will do a specific thing better than other animals. It has been developed in response to the demand for specialization. To attempt to produce by scientific mating two distinct and widely different qualities is a perversion of the principles of breeding. From such an attempt we get the "pedigreed scrub" ninety-nine times in a hundred. Thoroughbred means special purpose or it means nothing.

There is no profit in raising any cattle except those which make economical returns for feed and care. This is true with beef-man and dairyman. Neither can afford to put expensive feed and labor into cattle that are not far above average, regardless of breed.

The milker cannot afford to keep cows giving much less than 10,000 pounds of 3 1-2 per cent milk a year, and the cows giving 20,000 pounds or more are correspondingly more profitable. This statement rests upon the well-known fact that as yield increases, the feed cost also increases, but not nearly in proportion to the value of the milk—the fixed expenses remaining the same with the "boarders" and the blue-ribbon winners.

If a farmer is willing to milk at all, he can profit only by setting his standard on high yield per cow, regardless of breed or type. To milk a common cow, in the hope that her old carcass will bring a few extra dollars, or that her calf may grow into a likely steer, leads to nothing but loss, as has been demonstrated in some of the northern states, where the dual-purpose idea has been widely disseminated by men with one-track minds. That is, men who tried to run two trains in opposite directions at the same time on one track.

The man who throws corn and hay into fat stock these days must exercise good judgment in selecting his feeders. You can divide almost any herd into two sections, based upon inherent capacity of the individuals to make good at the feed racks; the poor half will not bring enough to pay for their feed; the better half may possibly show a profit.

In farming, a man must base his judgment upon the individual animal and not upon its ancestry. The only real advantage of breed is that as long as "like begets like" there is a probability that the offspring of thoroughbreds will resemble their parents.

That this is not invariably true is a matter for deep concern among live stock men. Performance does not always come up to pedigree, because too often breeders have kept their eye upon show points, mere externals, such as the shape and polish of horns, color of the tail, etc., instead of adhering rigidly and everlastingly to the score of intrinsic merit.

When you get them like this at two years you have found the highway to success in beef-cattle raising

In the end the externals fail, as witness the Belgian-hare craze, which went to smash because it was based upon your selling to some one else, who was to sell his breeding stock to someone else, and so on, with no real foundation of anything that was useful or necessary.

The "milking strain of Shorthorns" are beef cattle. Some of the cows give fair amounts of milk, but very few of them are profitable producers of dairy products. The bulls can not be depended upon to transmit to their daughters the capacity for giving large yields of rich milk. The farmers of Minnesota who followed this mongrel advice have found to their sorrow that they have been dual-purposed out of all profit in milk production.

After all a man keeps cows for but one purpose, and that is net profit. The animal which shows the largest net profit from all sources is the best for any farmer, no matter whether he milks one cow or a hundred. As very few farmers know what a pound of beef or milk costs to produce, it is no wonder they have been led astray by this milk-and-beef will-o'-the-wisp.

By all the evidence science has produced, a cow has a natural tendency to turn her feed into fat or into milk. Either tendency can be fixed by long years of intelligent selection and mating, so that it becomes a racial habit. Hence we get the special breed, both sires and dams of which ought to transmit their good characteristics to their offspring. Where cows are bred to turn part of their feed into milk and part into carcass, they cease to be economical producers of anything, and we get the dual-purpose or mongrel type.

You can kill a cow but once, but you can milk her for ten years. In those ten years a difference of one quart a day will amount to $188.50 at five cents a quart. To secure an extra good milker you can afford to forget all about her old carcass. Even in one year a three-gallon cow will produce, at five cents a quart, $73.00 more than a two-gallon cow.

Farmers often place a value of $10 on the calf, but that means a month-old calf ready for veal-pie. The credit should not go to the cow, but to the feed and care in raising that calf to vealhood. The cow should be credited only with the value of the calf at birth. Try to sell a day-old calf, and you will soon realize the difference. If you get $3.00 you are lucky and $1.00 a head will more nearly hit the average.

The only reasonable guide in buying cows is upon their individual merit, and the only sensible way to estimate the comparative value of cows is by carefully computing their net profits from all sources of revenue.

GETTING READY FOR KING CORN

Big Dividends for the Farmer Who Gives This Crop Special Care

By George H. Dacy

CORN-PLANTING time will soon be here, Mr. Farmer. Are you prepared? Are your horses in shape for the rush of spring work? Is your machinery in order for field use? Have you made all your plans about the coming crop? Have you selected your seed, and run germination tests to determine how much of it will sprout?

If you haven't done these things, Mr. Farmer, it is time you were getting busy. Now, while the weather is still rough, and when there is spare time to devote to such matters, you must attend to these affairs. The farmer that gets the jump on the work is never behind, while the man that lets the work get the jump on him never catches up until the next season.

While the ground is frozen all the well-rotted manure that is available should be spread over the field which is to be broken for corn this spring. After the plowing is finished the land, if possible, should lie for several weeks so that it can settle. Then the disk harrow, preferably a double-action disk, which throws the dirt both ways should be painstakingly worked over the field until a nice seed-bed is secured. In the case of soils which tend to run together and bake, it is advisable to put off the harrowing until the last possible moment, so that a beating rain will not have a chance to run the soil together. Otherwise the subsequent sunshine may bake the soil and form an impenetrable crust over the surface, which will make it necessary to reharrow the field. On soils of this type many farmers recommend to have the land in a rather cloddy condition when the corn is planted, in order that the soil may not be too fine, and so that a crust which will prevent the corn plants from breaking through the soil will not be formed after planting.

In planting his corn the farmer must consider important factors, such as cutworms, and the drouth which usually occurs every summer. The farmer should aim to get his corn in early enough to escape the dry spell. That is, the corn should be sufficiently mature by August, so that it can withstand the drouth. If the land has been fall-plowed, and exposed to the alternate freezes and thaws, the danger of cut-worms is minimized. Generally it will pay the farmer to plant from five to eight grains of corn to the hill, where he is checking his corn, in order that the young seedlings may have plenty of power to break through the soil. As a rule it is easier to thin corn than it is to be continually replanting to obtain a good stand. Some men assert that where the corn is properly thinned, this operation is one of the best workings which it receives throughout the growing season.

The usual method of planting in the Corn Belt

Whether the farmer should plant drilled corn or check-rowed corn will depend on his local condition. In some sections the land is so rough and foul with weeds and bushes that the corn must be checked in order that it can be worked both ways. In other localities, where the land is clean, loose and fertile, drilled corn will do better. For ensilage purposes drilled corn is by all odds the best, if the land is in shape for producing the best crop under this method. One objection to drilled corn in sections where the soil is stiff, tenacious, and shows signs of crusting, is the difficulty which the seedlings experience in breaking through the soil. The kernels are drilled so far apart that one grain doesn't give much help to its neighbor in getting out of the dark blanket into the daylight.

If there is any indication of a crust on the field, due to recent rains after the corn is planted, the farmer should harrow the field. He can use a pegtooth harrow, adjusted so that it will scratch through the crust without cutting too deep, or he can remove the front tooth from a one horse A-shaped harrow, and run it directly over the corn row, so that the soil will be crumbled on either side of the seed.

As soon as the corn plants are of adequate size cultivation should start. Particular care must be exercised in the first working to see that none of the plants are covered with dirt, and to make sure that the cultivator shovels are run as close as possible to the plants. Subsequent cultivations should occur as often as possible, the aim being to maintain a dust mulch and to prevent surface evaporation.

In order to do a good job in preparing the seed-bed, and in planting and tending his crop, the farmer must have efficient implements which are in working order. Timeliness is an eleventh commandment which should be observed on every farm. Maybe the plow needs a new landside, or the supply of points may be exhausted. The disk harrow may require some repairs. Order them right away, and as soon as they come put them on the machine. Look over the corn-planter, and have it in the pink of condition to plant the crop on a rush-order schedule. If the farmer will be prepared he will save himself much worry and bother later on in the season, when the rush of work has him in its grip.

Above all things, Mr. Farmer, don't throw away your good labor in plowing your land and preparing it for a crop by planting poor seed. Even if you have to pay $2 or $2.50 per bushel for good seed corn do so.

For certain purposes and in certain localities the corn drill is used

Old Orchards Made New—County Manager Plan

By G. W. Bush, Ass't Agriculturist, Oneida County, N. Y.

IN CENTRAL New York there are many hundreds of acres of orchards thirty to forty-five years old, that formerly produced large crops of the finest fruit, which now produce little or nothing. For example the production of apples in 1855 was 633,262 bushels, while in 1910 the production was only 264,627 bushels.

These orchards are usually small, ranging in size from two to twenty acres. In many instances they were set out simply to give the farmer and his family a few apple pies in the winter, and a little sweet cider in the fall, and this they did. **Farmers knew** little about spray, tillage and fertility for an orchard, and cared less. In fact few pests were known in those early days. However, as the country became more thickly populated and the forests became less plentiful, many of the pests that had never attacked the apple orchard before came in to give trouble.

Orchard pruned and plowed in process of rejuvenation. Net $31 per tree in 1913

The trees grew old and full of brush, and stopped for the most part bearing any fruit. What little there was, was rendered almost worthless by the multitude of pests that have become prevalent in all sections. For a part of our time during the past seven years, we have devoted considerable energy to the renovation of these old orchards. Orchards we have deemed fit to renovate or renew have always had at least fifty per cent of all trees present, have been located on well-drained soil, have been for the most part good winter varieties, have been located where air drainage was fairly good, and those trees present were trees that were not literally killed by disease.

In the renovation of these orchards, the first step has always been to prune the trees very thoroughly, for in most cases little pruning has been done, except that accomplished by Nature, and Nature is rough in her pruning processes. Where any pruning whatever has been done, usually the lower limbs have been cut off, leaving a few long poles extending far into the air, with a little brush on the end of each. This, of course, makes a very difficult problem and one hard to overcome.

In pruning an orchard that has been left undisturbed, the first step was to cut out all dead wood and all superfluous branches, thinning in every direction above and below, so that every branch or twig left had whatever room

Result of tillage, pruning, fertilizing and spraying. Net per tree, $26

was needed, giving ample opportunity for the circulation of air and distribution of light. In making the cuts great care has always been taken to cut the branches very close to the bough or branch on which it grows, and wherever these cuts have been larger than a silver dollar they have been painted with cheap lead mixed thick with linseed oil. In cases where it seemed necessary trees containing cavities have had these cleaned of decay and filled with cement, mixing this cement in the proportion one of cement to four of sand. After the first year little pruning need be done except removal of water sprouts and occasional dead limbs that appear, as well as dressing of wounds caused by breakage. This should be done every year.

The reasons for the pruning are these: to stimulate the growth of young wood and to make the bud and leaf growth stronger. It is very essential to have large and well-grown foliage, as leaves are trees' digestive organs.

In our renovations of old orchards, we have always fertilized with barnyard manure, hauling into the orchard and spreading the coarser manure from the stable during the winter. The object of this is to give not only fertility, but principally to add to the organic matter in the soil, for most of these old orchards have been in the regular farm rotation for many years, many of them perhaps in pasture, and so were very much depleted in organic matter. The manure we plowed in, early in the spring, plowing each row of trees as if it were a field by itself, back-furrowing one year toward the trees, and the next year away from the trees.

We never plowed over three inches in depth in these old orchards, and we always made a practice of wrapping some old burlap around the end of our whiffle trees, so as not to injure the bark. We usually cultivated these old orchards, either with a disc or spring-tooth harrow, about every two weeks from early May to July, realizing that the tree makes its growth during the early season. Early in July we usually sowed twelve or fourteen pounds per acre of medium or mammoth red clover for cover crop. This usually needed mowing about twice during the season. The next spring it furnished a very luxuriant mat for plowing under to give organic matter.

Perhaps one of the most important things in the renewing of these orchards was the application of spray, since all the diseases known to fruit and fruit trees are found in these old neglected orchards. For the San Jose and oyster shell scale, which was present to considerable degree, we either used a commercial spray, one to twelve, or lime-sulphur solution one to eight. This was applied before any color showed in the buds, usually in our locality about April 15th, taking pains to spray all parts of the trees until they drip.

For the scab we used lime-sulphur solution, one of lime sulphur to thirty-five of water. To this we added two to four pounds of arsenate of lead paste for the coddling moth. We usually dissolved the arsenate of lead in a pail of water before adding to the lime-sulphur solution. We sprayed for the scab and coddling moth just as the petals were falling from the bloom and again in about ten days. These

three sprays were all that we applied. However we are not sure that it would not have paid to have sprayed with arsenate of lead and lime-sulphur (same proportion as for scab) just as the buds were opening, to take care of bud moth and case-bearers. It is sometimes well to spray the last week in July for a second brood of coddling moth and apple scab, using same spray as used before for these pests.

We have never failed yet to get a fair crop of apples the very first year of renovation, but we have had better crops in the years that followed. In some instances the apples have been packed in barrels, and in other instances where we have been close to a good local market, we have used the bushel and half barrel hampers with splendid results. We have usually packed our apples in at least three grades, according to size and perfection.

We do not have figures on all these orchards, yet we do have costs on two of the small ones. In one orchard of 185 trees, 85 were pruned and cultivated and yielded 1100 bushels, including firsts and seconds. The balance, 100 trees, was not pruned or cultivated and yielded but 700 bushels, and these apples were far inferior to the others. The receipts from this orchard in 1914 were $1114.85. The total expense of renovating, cultivation, spraying, packing, etc., were $410.50, leaving a net profit of $704.35. Another orchard renovated in 1913 shows the following results: The total receipts were $296.57 and the total expenses were $495.22, making a net income of $801.35 on less than three acres.

Of course our operations cover only those of a small business, yet it adds one more crop to our diversity of products. This assists notably in increasing labor income, and especially on small farms, diversity is necessary. While it is impossible to ever make apples one of our chief products in this country, yet in many instances, where it is practical to bring back the orchard of fifty to two hundred trees, it adds an important source of income on the general farm. An effort should be made to make this unit a profitable one, and so to rejuvenate and care for these old trees that they will form as important a factor to our crop schedule as do others of our cultivated crops.

SPRAYING AND BANDING FOR THE CONTROL OF THE CODLING MOTH

By George M. List, Col. Agl. College.

This pest has gotten such a foothold in some sections of the State, and conditions are so favorable for its multiplication, that every means must be taken to keep it under control. Spraying alone is not doing the work in some of our worst sections. In a survey of the codling moth conditions of one county we found that the percent of damaged fruit, including wormy and stung, averaged from 3.5 per cent to 65 per cent, with the average between 30 and 40 per cent. Yet a close estimate shows that this county alone has spent in spraying during the past season, $135,000.00. We do not want to minimize the necessity of thorough spraying, but rather to impress upon the growers having badly infested orchards, the importance of other control methods.

The most important of these are the scraping and banding of trees. As all fruit growers know, the larvae of this insect winter over very largely under the rough bark of the tree trunks. A thorough scraping of these at this time of the year will destroy a large per cent of the larvae. The summer brood of larvae go under the same rough bark to pupate, so if the trees are scraped now and cloth bands placed about the tree before the summer larvae begin to pupate, the larvae will go under these and can be destroyed.

Much can be done toward keeping this pest in check by this work. This was pretty conclusively brought out in our codling moth survey work the past fall. A summary of our counts on banded and unbanded orchards is decidedly in favor of the banded orchards, —enough to make it well worth the extra work and expense. In one of our experimental orchards, one plot with five sprays and bands gave 10 per cent cleaner fruit than another plot with seven sprays and no bands. Does it pay?

A lot of people have been figuring upon an easier way of transferring real estate. What a lot of people would like to see is an easier way of getting hold of a farm.

It isn't right to blame a river for the things people throw into it.

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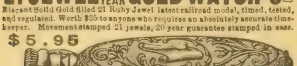

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Soybeans and Cowpeas As Substitutes for Clover

By A. T. Wiancko, Chief in Soils and Crops
Purdue University, Indiana

MANY FARMERS are again faced with the problem of what to do with the field where the clover failed last year and the question is asked: Shall I put it back to a grain crop or shall I try some substitute for the clover? If the future condition of the soil is to be considered, there is only one answer to this question and that is to say, by all means use a crop that will come nearest to taking the place of the clover. Every time clover fails and the land is put back to a grain crop it becomes more difficult to secure a clover stand the next time it is tried. If there were no satisfactory substitutes for clover, there would be no alternative, but as it is there are at least two crops which can be used to good advantage and the man who once becomes acquainted with their value will not worry much whether he gets a stand of clover or not. These two crops are soybeans and cowpeas, and their use is perfectly practical. They will not only make good hay to take the place of clover but they will gather nitrogen from the air and benefit the soil much in the same way as clover would and, furthermore, the financial result will be just as satisfactory.

For a number of years the Soils and Crops Department of the Experiment Station has used both soybeans and cowpeas in this way on the University farm at Lafayette, and on some of the outlying experiment fields, with gratifying results. If properly managed both crops are sure, and there is no longer any room to doubt whether or not they are practical. They will not only pay as well as clover, but the following corn crop will be just as good as on a clover sod.

If hay is needed to take the place of the clover which failed to stand, either cowpeas or one of the fine stemmed, rank growing varieties of soybeans can be used with full assurance that as large a yield and hay of fully as good quality can be secured. Last year on the Wilson farm we had about five and one-half acres of Sable soybeans, which were planted about the first of June. The crop was intended for seed, but the summer was very dry, and growth was slow until after the August rains. About the end of September it looked as though the crop would hardly ripen for seed, so it was cut and made into hay. The yield was 2.11 tons of cured hay per acre, which we sold directly from the field for $16.00 per ton. The result was $33.76 per acre at a cost of about $11.00. The rest of the field, about fifty acres, including four other varieties, made an average of 16.02 bushels of seed to the acre which we are selling at from $2.50 to $3.00 per bushel. Corn in the same field made from forty to forty-five bushels per acre. In the case of the seed crop, we returned the straw to the land with a manure spreader and plowed it under late in the fall, and we feel that the land has received as much benefit as if five or six tons of manure to the acre had been applied.

The soil preparation for soybeans or cowpeas should be much the same as for corn. The crop may be planted with a corn planter, narrowing the rows to three feet if possible, and drilling the seeds about two inches apart in the row, which will require about half a bushel of seed to the acre, or a wheat drill may be used, using every fifth drill hole for planting in rows for cultivation. On clean ground where weeds are not likely to be troublesome, drilling solid without subsequent cultivation may be practiced. In this case a bushel of seed to the acre should be used.

For cowpeas special inoculation is seldom needed in this state but wherever soybeans are grown for the first time it is almost sure to be required. The inoculating process is very simple. Thoroughly mix about a gallon of moist, screened, inoculated soil with every bushel of seed as it is put into the drill or planter box. If seed is secured directly from farmers, a gallon of screened soil from the soybean field should be demanded with every bushel of seed bought. Most farmers selling seed are prepared to furnish this most important adjunct.

Planting should be done right after the best time to plant corn but both of these crops will stand much later planting if necessary, except in the case of late varieties intended for seed production. Southern seed should be avoided, except for hay production, as the southern varieties are too late maturing for this state. There is plenty of good seed available in Indiana and neighboring states north of the Ohio river.

Ordinarily it will pay well to drill with the seed about one hundred and fifty pounds of a fertilizer containing ten to twelve per cent of phosphoric acid and four to six per cent of potash.

For soybean hay production, Sable, Peking, Jet, Black Beauty or Wilson are all good. Ito San, and Early Brown will make good hay but they do not make as large a growth. Hollybrook, and Mikado may also be used but the stems are coarser and the quality of the hay will not be as fine. The crop should be cut when the pods are about half grown, put up in small cocks as soon as thoroughly wilted and allowed to stand for several days to cure before hauling.

For cowpea hay the Whippoorwill, Clay, Iron and New Era are all good. The Blackeye and Black are less productive for hay. Cowpeas should not be cut for hay until the first pods have turned yellow; otherwise the crop should be given the same treatment as soybeans.

"Like Begets Like"

Careful Seed Selection a Fundamental in Modern Farming

By H. A. Bereman

I AM a tiller of the soil. As the days begin to lengthen I think of seed-time. Soon I will fill up the hopper and drill the seed in the ground. What grain is to grow in yonder field? Wheat! I will harvest wheat to help feed the nations. What do I put in this hopper? A child can answer. To garner wheat I must plant wheat.

"Like begets like." "Do men gather figs of thistles, or grapes of thorns?" "As ye sow, so also shall ye reap." These things every farmer knows. He knows them so well that he doesn't think about them—wheat grows from wheat—can anything be plainer?

Suppose I wish to grow red wheat—Turkey Red. Do I put Marquis wheat in the hopper? Or Alaska wheat? Or winter wheat to be sown in the spring? Or wheat with no name or history?

How foolish! Of course I take Turkey Red seed, for every farmer knows that "like begets like," and to harvest a crop of one variety of grain I must sow that variety of seed.

Wheat from wheat. Turkey Red from Turkey Red. Little Johnny here, who is only seven years old, knows that. He buries beans in his tiny patch of a garden and has faith that more beans will grow on bean vines. He knows that yellow kernels of corn will grow into tall stalks, bearing ears of yellow corn. Otherwise he wouldn't care to play the garden game. It is so plain that it sounds like kindergarten talk to repeat "wheat from wheat. Turkey Red from Turkey Red."

What if I wish to grow wheat of the first quality—"Number One Hard." Suppose I have a fancy to harvest forty bushels on every acre instead of the poor yield of fourteen bushels, or seven, or three, which go to make up the unprofitable average. Isn't the answer just as plain? Cannot a child understand that if I harvest fat kernels I must sow fat kernels? If I wish forty bushels per acre I must sow forty-bushel seed?

Wheat from wheat. Turkey Red from Turkey Red. Fat kernels from fat kernels. Big yields from big yields. You can't get away from it. One is just as sure as the other.

Yet just the other day I saw a farmer lay aside some sacks of wheat to sow next spring. He filled them from a bin that held almost 600 bushels. That binful of wheat came from a forty-acre field. Each acre grew but one bushel more than the forty-year average for our entire country.

That farmer is a sane person. He likes money for the things it will buy. He would rather have forty bushels of wheat than fifteen. Yet he seemed satisfied to sow seed from an unprofitable crop without grading it, knowing that "like begets like."

I examined some of that wheat. I do not wonder that it took forty acres to fill a 600 bushel bin. Many of the grains were shrunken, most of them were small, none were large and plump—full of starch to make a quick-growing plantlet, nor full of vitality to make it develop into a large plant, bearing many long heads filled with big, plump kernels.

Plump, clean seed means fat, clean harvests

Ordinary commercial wheat, often used for seed

"What variety of wheat is this?" I asked. He couldn't say. It was just wheat. It had been sowed on that farm for nearly twenty years. No, he never used a fanning mill. He couldn't afford the expense, and, anyway, he sowed enough seed so that there would be a good stand, even if some of the grains were small and shriveled. He wouldn't think of paying $3.00 a bushel for any fancy seed with a high-sounding name. Not while he had this wheat right here in the granary.

He knew he had to sow wheat in order to reap wheat, but he thought he could sow little kernels and harvest big kernels—that by some miracle he could sow wheat that never ran over eighteen bushels, and harvest a crop of twenty-five, or thirty or forty bushels to the

(Continued on Page 27)

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Town Movement For Better Highways

By Alvah H. Pulver

Road roller and stone crusher used in town movement for better roads

WITH the opening of seasonable activities now coming around on the farm, the value of good roads will once more impress the farmer who has hauling to do. It is at the two ends of the season that the farmer is "on the road," bringing home supplies in the spring, and getting out his crops in the fall. It seems just as though Dame Nature conspired against him at these times, as if to urge him on toward road betterment in general.

Every state highway chops miles off the hauling distance to any market. The growers are getting enthusiastic over state roads, even with the corruption we seem to have to endure to get them. But in the cry for more state highways it has been a question to me whether the possibilities of town construction of highways have been kept in sight. I know of communities that are still waiting for a state road, promised the district for years, and in the meantime traffic in spots has been well-nigh impossible during certain periods of the year.

With a clean, practical man in charge of the town's highways, there are miles of road that can be materially improved each year. I well remember such a town, where but seemingly a few years ago, taxpayers were working "road tax" annually, making a "bee" of it, with their shovels and rakes. Those days have now passed in New York. This town now in mind has a superintendent of highways who draws about $900 annually for his services. The town owns a stone crusher, steam roller, gasoline roller or tractor, and a complete road-construction outfit. Of course these machines were not all purchased at one time. They represent the equipment accumulated through a period of years, backed by the taxpayers, who continue to believe in the town taking an important part in improving its highways.

The town officials have not waited for some general movement to obtain for them a state highway, but where there was urgency of bettering connecting roads, that would permit the farmers and fruit growers to reach the markets, the work has been taken in hand with resolute determination. As a result, from ten to twenty miles of road are built over each year, and from the early ones improved the betterment promises to endure for many years.

To a partial degree the process resembles the work prosecuted under state direction. The stretch to be improved is first plowed out, and a depth of approximately two feet is reached before a halt is called on this part of the work. In this section there is no limit to the stone supply, many farmers

Section of road improved by co-operative effort

being glad of an opportunity to dump some of their supply in the trench. After a sort of small boulder foundation is established, the cut rock from the stone-crusher is applied, and when high enough for surfacing the steam roller comes into use. This is rolled "every which way," and is dressed with a surfacing of gravel and again rolled.

In order that two operations might be carried on simultaneously this town purchased a gasoline roller, one that could also be used to run the stone-crusher. While the steam roller was at some distant point the tractor would operate the crusher, and afterwards roll down the nearby road. At first there was some opposition to the purchase or rental of any expensive equipment by the town. This has now all passed away and while even the cheapest roads cannot be built on wind, the value of the new highways is so much in sight that nobody begrudges the expenditure.

The farmers and taxpayers of any town have it within themselves to obtain excellent roads by strictly local enterprise in really getting after them. Good roads are as much an asset as good orchards. Even the farmers opposed to highway construction intuitively increase the appraisal of their farms as soon as an improved highway skirts their farm line.

Not only is the farmer going to persistently preach good roads, some now and all some time, but the farmer is going to be one of the largest buyers of a farm truck,—perhaps not as large as the moving vans of the city, but a substantial truck built for heavy traffic,—and he will see the wisdom of owning it. It will figure out to him as a matter of pure economy.

Every year the transit problem for the farmer has developed into a more meaty one. The transition of things has made it imperative that more attention be given to the selling and delivering end. The momentum now acquired will not be lost. Quick connections, initiative and means of getting there, will have an ascending value every year. The farmer who does not stand ready to help in a town movement for better highways is not making the most of his opportunities.

The good old times you talk about were mighty good no doubt. But, don't you fool yourself, brother. These days right here are surely better, and better days are still coming in the future. Look forward always. Don't get the habit of the backward gaze. It makes a crick in the neck, and hinders progress.

No man is wise who is too sure of standing where others have fallen down.

If you can't smile, for goodness' sake do something to take the vinegar out of your face.

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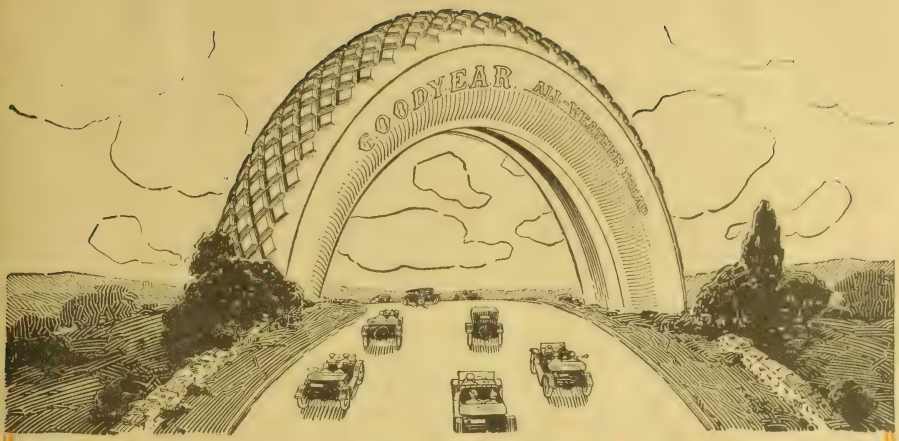

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Fortified Against
- **Rim-Cuts**—by our No-Rim-Cut feature.
- **Blowouts**—by our "On-Air" cure.
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- **Insecurity**—by 126 braided piano wires.
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All these trouble-saving features belong to Goodyear tires alone.

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On February 1st we reduced our prices for the third time in two years. The three reductions total 45 per cent. Now our mammoth output enables us to give you the greatest value ever known in tires.

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They can't avoid all mishaps, but they will save you many a trouble, many a dollar. They are doing that now for some 400,000 motorists. Let them do it for you.

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PURE CULTURE

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GOVERNMENT Positions are easy to get. My free booklet X-54 tells how. Write today—NOW. Earl Hopkins, Washington, D.C.

THE COMMERCIAL HOG

The first and foremost place for the commercial hog is within the corn-belt states. It is, however, fallacious to argue that it is the only region where pork can be produced at a profit. The advantage of having an abundance of corn to feed is offset to a certain extent by its injurious effect upon the breed animals and growing pigs.

So readily do swine assimilate the great American crop of corn that for years the commercial production of pork has been confined almost exclusively to the corn-belt states. The steady advance in the price of corn and hog products during recent years, together with the more intelligent knowledge of the laws governing animal nutrition, is causing many farmers in other localities to take an increased interest in the hog as an economical producer of meat, and a universal consumer of the abundance and wastes of the farm.

While one cannot always select a farm and location that is ideal for breeding and feeding hogs, he can, to a large extent, modify unfavorable conditions by selecting a portion of the farm that is dry and well drained for feeding yards. Cold and damp ground is unsuited to the health of the hogs. A porous soil that is just rolling enough to afford natural drainage is best suited for this purpose. If it is supplied with a stream of running water, uncontaminated from yards or pastures further up stream, the conditions will be nearly ideal.

The breeding herd and young things must have adequate shelter, both in winter and summer. In a northern climate a warm farrowing house is essential if the early litters are saved. It is not necessary to erect an elaborate or expensive building, but it should be planned so that there will be light, pure air and sunshine. It is better, if possible, to build the houses on a north and south line, so that both sides and floor will receive direct sunlight during a part of the day. If concrete floors are laid, the nests should be elevated to prevent cold and dampness. The concrete should be laid close to the posts and base boards, to prevent the hogs rooting and rats from burrowing under the walls.

The size and shape of the farrowing houses is largely a matter of personal fancy, although sanitary considerations favor a number of small houses, rather than confining too many animals in one building. If the sows are large the pens should be large enough to afford ample room for the sow and her pigs. My experience handling large sows at farrowing time has been favorable to a house that will accommodate six sows and their litters. This gives plenty of room to build yards, so that the sow and pigs may bask in the sunshine, and get plenty of pure air and exercise whenever the weather is pleasant. Another point in favor of the smaller houses is the fact that it is many times quite necessary to build a fire in the house, and keep watch of some large sow at farrowing time. At such times the small house is more easily warmed and the risk from fire is much less than when a fire is kept in a larger house.

In a locality where the winters are extremely cold it is an excellent plan to construct winter quarters for the breeding herd and growing pigs sixteen feet wide, and long enough to accommodate the number of animals that are being kept. A building of this kind may be provided with movable partitions, so that it can be sub-divided into pens of various sizes as the occasion demands. The best material for floors is concrete. The best cement should be used, and a strong surface coat applied. The pig's feet are sharp and will cut through unless a hard surface is put on the concrete.

The floor should be made to slope one and one-half inches to one side to facilitate the work in cleaning, and enable the concrete to be flushed with water when the pens are cleaned. It may be built with a shed roof, and should be double boarded with building paper between the boards. When building it will be better if two-inch plank are used for the first four feet from the floor on the sides that are to serve as sides and ends of the pens. The rear of the building will not need be more than six feet high and the front about ten feet high. This will afford plenty of room for a man to work and be among the animals when his services are needed.

For warm weather, or for use in a locality where the winters are short and mild, individual houses are preferable, but in a region where two or three feet of snow is the rule and not the exception, I prefer to have the hogs closer together, and in more comfortable pens. I have used the individual houses while growing hogs further south, and found them very satisfactory in that climate. The two points that commend these colony houses are the ease and convenience in handling the herd when a system of pasture and forage crops is being utilized, and the ease of preventing the spread of contagious disease among the herd.

It costs much less to install the colony system, and new houses may be added from time to time to meet the requirements of the hogs. If the yards and pastures are properly arranged the work of feeding may be greatly facilitated by equipping a low-down wagon or truck with a feed-box or tank of the proper size to hold the required amount of feed.

It costs a lot of money to build and equip a large central hog house, and if it is constructed largely of wood it is an extremely difficult matter to keep it sanitary and to prevent it from be-

ing a harbor for rats. Rats not only destroy large quantities of feed, but they are an insidious source of danger when infectious and contagious diseases are prevalent in a locality.—M.

TAKE CARE OF EWES

The winter care of the flock is important to insure a lamb crop to be harvested in the spring. Ewes in good condition need not be fed grain until about a month before lambing, when they should gradually be accustomed to it. Ewes in thin or poor condition should receive from one-fourth to one-half pound of grain daily. Corn alone is not the best grain ration. A ration of 6 parts corn, 3 parts wheat bran, 1 part linseed oil cake, by weight, has proven very satisfactory. A ration of corn, oats, and bran, equal parts by weight, can also be recommended.

The sheep should receive as much clover or alfalfa hay as they will eat. The amount of hay eaten can be cut down by use of corn silage or corn stover. Two pounds of clean, sweet corn silage can be used to replace about one pound of hay. Well cured corn stover is also relished by the ewes. Ordinarily, there is little danger of the sheep eating too much of it, if hay is fed once a day. The greatest danger of corn stover comes from making it the exclusive feed. Clean salt and water should be kept before the flock. Sheep should always have a dry, well-bedded floor to lie on.

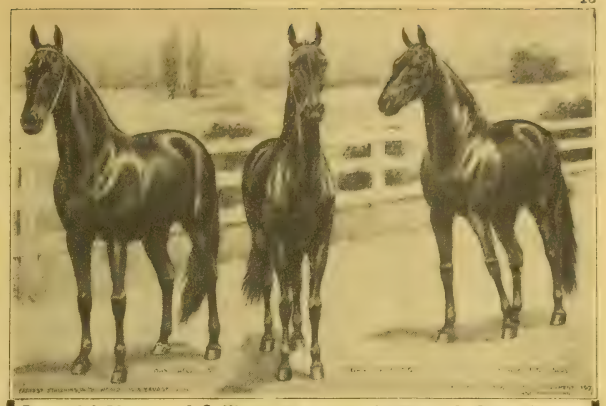
As a rule sheep owners place too much stress upon the selection of the ram, and too little upon the selection of good, uniform breeding ewes. There is no question but that a good pure-bred ram can do much to improve a flock of grade ewes, but as the flock more nearly reaches perfection, it is very necessary that we devote more attention to selecting the breeding ewes, or further improvement will be out of the question.

Sheep help solve the hired help problem. One man can take care of a pretty good-sized bunch of sheep. Of course they need careful looking after during lambing time, but so do cows and pigs, when they are bringing forth their young.

The appetite of the sheep is something that should be closely watched at all times. Feed them only what they will eat up clean at one time. To feed more is no advantage to them, and is a loss to the feeder.

Many fail with sheep because they do not keep the breeds best adapted to their farms, and do not raise the kind that the market demands and is ready to pay the highest price for.

No man should undertake sheep-raising until he has his farm properly fenced. The old-time barb wire, with wool hanging to it, is a relic of the past on the up-to-date sheep farm.



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All you have to do to receive this Beautiful Horse Picture is to Answer the following THREE QUESTIONS, PROVIDING You Are a Farmer or Stock Owner or Horseman-Over 21 Years of Age.
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ANY Farmer, in ANY Locality, can Quickly Receive My $25.-Dan Patch Gold Stop Watch,-Absolutely Free. THOUSANDS OF FARMERS HAVE. Two Beautiful, High Grade Watches in One.

CAN YOU SELL GOODS TO FARMERS? IF I do NOT have a good Retail Dealer in Your Locality,—then and ONLY THEN,-I will make You a Big Money Making Proposition,—in ADDITION to My $25.00,-Free Watch Offer. If Interested and Reliable,-Write Me Today.

Yes, waiting for every farmer or farmer's son—any industrious American who is anxious to establish for himself a happy home and prosperity. Canada's hearty invitation this year is more attractive than ever. Wheat is higher but her farm land just as cheap and in the provinces of Manitoba, Saskatchewan and Alberta

160 Acre Homesteads are Actually Free to Settlers and Other Land at From $15 to $20 per Acre

The people of European countries as well as the American continent must be fed—thus an even greater demand for Canadian Wheat will keep up the price. Any farmer who can buy land at $15.00 to $30.00 per acre—get a dollar for wheat and raise 20 to 45 bushels to the acre is bound to make money—that's what you can expect in Western Canada. Wonderful yields also of Oats, Barley and Flax. Mixed Farming is fully as profitable an industry as grain raising. The excellent grasses full of nutrition, are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent.

Military service is not compulsory in Canada but there is an unusual demand for farm labor to replace the many young men who have volunteered for service in the war.

Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

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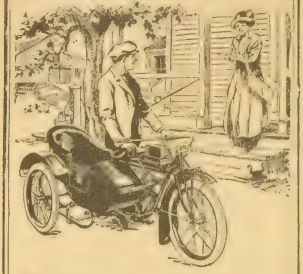

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Indian Motocycle

Comfort and speed come with the ownership of an Indian. The *Cradle Spring Frame*—found only on the Indian—makes rough road riding smooth and enjoyable. It is but one of the exclusive mechanical features.

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A chain of Indian factory branches, large distributors and 2,800 dealers from whom adjustments and parts for any type of Indian ever built can be had, assure *over-night* service for Indian riders—*anywhere*.

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A Beautiful DAN PATCH Picture Free. See Page 13.

DIFFERENCE BETWEEN BUTTER AND BUTTER-FAT

Many a creameryman has found himself "stumped" when he has attempted to explain to a patron why more pounds of butter can be made from a certain quantity of cream delivered to the creamery than the pounds of butter-fat that the producer is paid for. When the creameryman visits a "backsliding" or "backslidden" patron he is very often uncourteously told that he is not giving honest tests, as more butter has been made at the farmer's or dairyman's home than was paid for the butter-fat at the creamery from an equal quantity of cream.

Every person interested in dairying should have a complete and clear understanding of the difference between butter and butter-fat. It is the absence of this that accounts for many a misunderstanding between him and the creamery. The producer of the cream is right when he says he can make more butter from a given quantity of cream than the number of pounds of butter-fat he would be paid for at the creamery from the same cream. He is mistaken however when he considers the creameryman has been dishonest with him, because it is inevitable that the butter should exceed the butter-fat.

Butter-fat, as shown by the Babcock test, is practically a pure oil. There may be, and probably is, a small quantity of water or acid in the fat column in the neck of the test bottle, but we will suppose it is a pure oil, as the impurities have no material influence on the final result of the Babcock test. The butter-fat is a complex oil made up of nine different fats, each having its own particular melting point. When, however, they are physically united the alloyed fats have a common melting point.

When the butter-fat is in milk or cream it is in the form of minute globules, it being emulsified throughout the mass. It is then in very close physical relationship with the other components of the milk product, and without adding a sufficient amount of acid to destroy all the solids in milk, not fat, it would be practically impossible to get it free from the other milk components.

When cream is churned there still remains this close relationship between the butter-fat and some of the other milk components. While the butter-fat becomes more united, and in a solid form, during the churning process, it takes up or becomes more or less closely united physically with water and curd or casein which were in the cream. Besides these substances there is incorporated in most butter enough salt to give it the desired flavor.

Butter then is composed of butter-fat, water, salt and curd. Hence more butter can be made from a given quantity of butter-fat than the amount of original butter-fat. In creamery practice an attempt is made to get about one-fifth more butter than butter-fat. For instance if 100 pounds of butter-fat were in a churning an effort would be made to get about 120 pounds of butter.

The butter-maker cannot apply methods whereby he is assured of a certain increase over the butter-fat, but he can secure approximate results. This increase of butter over butter-fat is known as overrun. This is the factor that makes it possible for the creameryman to pay the market price of butter for the butter-fat. This is a matter that has caused much discussion in creamery circles, and it is one that every person at all interested in dairying should understand.

I trust that I have made this point clear, and that everyone will understand that butter-fat is a pure oil, while butter is a more or less complex substance, with butter-fat the principal component, but nevertheless containing several other substances.—U.

SELLING CREAM TO PRIVATE CUSTOMERS

Cream forms a most profitable branch of dairying, and a ready sale is easily obtained for it, either wholesale or retail. It usually pays better than butter-making, and involves much less labor and trouble.

It is quite as paying as milk selling, and in many instances more so. On large dairy farms a wholesale trade in this table commodity can be successfully carried on, the cream being sold to stores or other big customers, such as hotels, etc., in neighboring towns. Its retail sale, put up in small receptacles, is attractive upon smaller farms. The retailing necessary involves extra trouble in packing the cream and distributing it to the various individual customers, but correspondingly higher prices are realized, which amply compensate for the additional trouble incurred.

A retail trade can, of course, also advantageously be developed on large farms, if facilities for doing this are present. To secure a continuous and certain sale, so that all produce can readily be disposed of, constitutes the fundamental condition upon which the practicability of carrying on cream production for sale, either wholesale or retail. The trade in cream is particularly active in summer, great quantities being used with ripe fruits in the making of ice-cream, etc., and it should be especially catered to during this season, that is from May until the first of October.

In fact, it will in many cases be found a good plan to engage regularly in this branch only for that particular period, devoting attention to another dairy department at other times, and merely continuing to produce some cream, if necessary, through the late autumn and winter, according to the requirements of individual customers. A considerable demand for cream, however, exists

all the year round, and with a strongly established private connection of wholesale trade cream production can be persisted in throughout the year. The process of producing cream is quite simple, of course resolving itself merely into extracting it from the milk and cooling it down, to insure its keeping qualities before it is taken off the farm. In the retail trade there is the further detail of putting it up in suitable vessels to be attended to.

The usual and up-to-date method of obtaining the cream is of course by means of a separator. This, besides involving the minimum of trouble and time, has the great advantage that it is obtained in a perfectly fresh state, and so remains fresh all the longer. The separating should be done as soon as possible after milking, as the milk at blood heat is at the most suitable temperature for thorough separation, and insures the maximum quantity of cream being obtained. The degree of thickness of cream is readily regulated with more or less exactitude by altering the adjustment of the cream screw, which is found on all reliable makes of separators. The working of the machine at a very rapid rate of speed conduces to the production of a thick cream, while the cooling down of the cream to a low temperature immediately after separation contributes to the same result.

The public demands a thick cream, and in so doing think they get rich cream. This however is by no means always the case. Thick cream under ordinary conditions is usually rich. Cream poor in fat may be readily thickened by exposing it to the effects of cooling. Really, rich cream may often appear quite thin, especially if perfectly fresh and at a somewhat high temperature. Cream for sale to private customers should in all fairness to them contain from 25 or 40 per cent cream, thickened by immediate cooling. The best brands of bottled cream should contain from 40 to 50 per cent. To prepare bottled cream, thoroughly clean and scald out the bottles, and then cool and dry them. The fresh cream, as obtained straight from the separator, must be cooled down at once to as low a temperature as possible, and then poured into the bottles. Fit each bottle with a tightly fitting cork, make airtight, and use a small piece of parchment paper to prevent the cream from coming in contact with the cork. Place the bottles of cream in a cool place, in cold water or in an ice chest, if one is available. The appearance of the bottles may be improved by affixing neatly printed labels and by covering the tops with tinfoil.—U.

FOOD QUESTION

Settled With Perfect Satisfaction

It's not an easy matter to satisfy all the members of the family at meal time, as every housewife knows.

And when the husband can't eat ordinary food without causing trouble, the food question becomes doubly annoying.

An Illinois woman writes:

"My husband's health was poor, he had no appetite for anything I could get for him, it seemed.

"He suffered severely with stomach trouble, was hardly able to work, was taking medicine continually, and as soon as he would feel better would go to work again only to give up in a few weeks.

"One day, seeing an advertisement about Grape-Nuts, I got some and he tried it for breakfast the next morning.

"We all thought it was pretty good although we had no idea of using it regularly. But when my husband came home at night he asked for Grape-Nuts.

"It was the same next day and I had to get it right along, because when we would get to the table the question, 'Have you any Grape-Nuts' was a regular thing. So I began to buy it by the dozen pkgs.

"My husband's health began to improve right along. I sometimes felt offended when I'd make something I thought he would like for a change, and still hear the same old question, 'Have you any Grape-Nuts?'

"He got so well that for the last two years he has hardly lost a day from his work, and we are still using Grape-Nuts."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

EXPOSING MILK

When nature instituted milk as a food, she provided the manner of supplying it in such a way that it should not be exposed to external contamination. When the expert wants to secure milk in its natural state he inserts a sterilized glass tube into the teat, and draws the milk into a sterilized bottle.

The point of interest to the dairy farmer in this is, that such milk will usually keep sweet at room temperature for a long time if protected from later contamination. So milk must not be exposed more than is absolutely necessary.

It should be classed as a piece of good fortune that a food product of such value and widespread use as milk can be maintained by the observance of so few and so simple precautions.

Some exposure must occur in the ordinary routine. So much is granted. But this exposure can be made as slight and as harmless and as short as possible. Milk, in its passage from the cow to the consumer, should enter a small number of vessels, the fewer the better, and the opening in these vessels should be as small as the purpose will allow. Necessary exposure is limited to drawing milk from a clean cow in a clean place, with clean hands into a clean pail, and straining it in a clean room into a clean receiving can. It requires quick milking, quick straining, quick filling of the vessels, and covering them immediately.

The exposure which has resulted can be offset by cooling the milk, and maintaining it at a low temperature. The cooling should be done within an hour, and if possible immediately after the milk has been drawn from the cow. This quick cooling is absolutely essential for milk destined for the cities. —U.

Low Prices on Edwards Metal Shingles

Business is on the mend. Steel mills have renewed operations. Orders are pouring in. That means demand—higher prices. But, before prices start up—NOW is the time to decide on your new roof, and get the rock-bottom price on Edwards **Rust-proof Metal** shingles—the everlasting roof—the **fireproof** roof—the time-saving, money-saving, trouble-saving roof.

A canvass of experienced farmers has just been made. Man after man says, "**Metal** Shingles for mine." And they give their reasons. Wood shingles are costly and troublesome. Many "prepared" roofings blow off or dry up. Compared, roofing "sweat."

Weather-Proof But Edwards **Metal** Shingles last five times as long as wood shingles. Fire times easier to lay. The Edwards famous patented "Tightcote" process makes the roof weather-proof and trouble-proof. Interlocking Device keeps roof tight and intact. Each shingle is dipped in molten zinc after it is cut.

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One Man Can Do It All

One man with a hammer and nails can do it all. That's easy, isn't it? No after trouble or expense. No "wood" shingle cost, bother or uncertainty. No roof blown off in windstorms. No storm-damaged interiors.

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That's another advantage. You are covered against lightning loss under our $10,000 bond.

All in all, you pay **less** at the outset—you get a longer-lived roof—you pay less after the roof is on. You save every way. And you make a special big saving by acting NOW before prices go up to normal. Write for special Low Price Offer today. Give dimensions of roof if possible. Ask for catalog 60. We give full instructions. Write today—N-O-W!

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Gears thoroughly protected. Different from this picture, which illustrates our large capacity machines. **Western orders filled from Western points.** Whether your dairy is large or small write for our handsome free catalog. **Address:**

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A combination of three churns in one. Will churn from 2 quarts to 4 gallons, without any adjustment. All metal. Inside parts solid aluminum. Easy to handle, easy to clean. Any child can operate it and churn butter in 5 minutes.

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POULTRY

SOME BABY CHICK TROUBLES

This is the time of year for "Baby Chicks." There are very few sights which cause one's face to light with smiles more than to see a brood of nice, fluffy, thrifty, little chickens. Too often the scene changes in four or five days, and the hopes of the owners are blighted, for the little chickens grow sick and weak, finally dying, and the owner cannot locate the trouble. Many causes of trouble with baby chicks may be traced to one of three sources, namely, heat (too much or not enough), feeds, or crowding.

While the chick was yet in the shell the egg may have been heated to such an extent that the yolk was hardened till it could not be used by the chick, yet the heat was not great enough to kill the chick. Chicks in this condition look strong and healthy for a few days, but soon get sick and die. This condition is found with chickens hatched in incubators only, as the hen's temperature does not get high enough to cause this trouble.

After the chicks hatch, the mistake is often made of keeping them too warm, which has a tendency to weaken them. The best brooders are arranged so the chicks can find the temperature they like. Letting the chicks get chilled is just as injurious. Just before the chick is hatched it takes the yolk into its body. This is a little lunch basket given to the chick by nature to supply it with food till it learns how to eat after it comes out into the big world. Much has been said about feeding baby chicks as to what, when, and how to feed. Some people seem to think that because a little chick is picking at everything it sees that it is hungry, so they feed it at once. The little chick is a new creature in a strange land, investigating through curiosity, and is not really hungry. Other people know that the chick has the yolk inside its body, and that it contains food enough to last the chick for several days, so do not feed it for three or four days.

These are the extremes, and may either of them do injury to the chick. To feed as soon as hatched would gorge the digestive system with too much food, and to wait four or five days, the labor required of the digestive system would be too great for its strength.

The better plan is to begin feeding small quantities of food at from 24 to 48 hours, and increase the feed as the yolk decreases. Nature does not like sudden or abrupt changes. Hard-boiled eggs ground fine, shell and all, mixed with bread-crumbs, are good for the first two days, then change gradually to rolled oats and wheat bran. After the chicks are five or six days old, feed a mash composed of equal parts of wheat bran, rolled oats, shorts, corn-meal, and to each 100 pounds, add one-half pound of fine table salt and two pounds of fine charcoal. In the afternoon moisten enough of the dry mash with sour milk or buttermilk that it will take the chickens twenty or thirty minutes to clean it up. Do not mix enough feed that some will be left to spoil.

Begin gradually to feed a good grade of scratch feed, feeding but very little at first. Keep grit before them all the time. It is a good practice to give a few drops of sour milk or buttermilk to the chick as soon as it hatches. It helps to control diarrhea. Keep either a good grade of sour or buttermilk or water before the chicks at all times.

The third cause for trouble is crowding. A chicken cannot sweat like many animals do, for they have no sweat glands in the skin, therefore, much of the impurities and moisture must be carried out through the breath. If the chickens are crowded, without proper ventilation, the air becomes laden with moisture and impurities so that the air cannot do the work it should. This places an unusual strain on the kidneys, which results in a weakened system. The chickens come out in the morning weak and tottery, with little or no appetite. This is often responsible for the weak, low vitality birds after they get older. If a chick is properly hatched, fed and cared for, there are very few diseases which will affect it.

INCUBATOR HINTS

It will not hurt the eggs to heat up slowly at first. It will be better than to heat them up too quickly. Let the temperature come up gradually to 102 in the first two days.

Don't turn the eggs until the third day; then turn them twice a day until the eighteenth day, except on the days when you are making the test. Once a day, in the morning, when you are testing is sufficient. Don't air the eggs in a cold room. Chilling, I find, causes crippled chicks.

Don't leave the incubator open while airing the eggs. The eggs should go right back into a hot chamber, not a cold one. This often causes bad hatches.

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Heat may be conserved in extreme cold weather by covering the incubator with one or two blankets, just folded and laid on top.

If the heat at the first runs up as high as 109 or 110, don't be alarmed, as the water around the germ will very likely save it. But don't let anything like that happen after the second week.

Don't throw the eggs away if, along toward the last of the hatch, the incubator should get cold, even if the eggs should be cold for several hours; you probably will get some cripples, but the chicks will not be killed.

During April and the first of May the incubator does not need much moisture. After five or six days test for moisture, using a ten-inch square piece of wet cloth or bolting paper. If it dries out in twelve to twenty-four hours, wet it again and put it back in. If it holds the dampness, take it out, but test again toward the end of the hatch.

Be sure the machine is regulated properly, and after that don't touch the regulator after airing the eggs. The flame should be kept at such a height that the damper will just balance over the chimney.

ATTENDING THE BROODER

The brooder, both indoor and outdoor, requires more rigid care than the incubator. The principal source of danger from this machine is that of fire. A few points as to its management right at this season will not come amiss.

Never leave the lamp in the brooder until you are sure that it is low enough to prevent smoking. Keep the burner catch very tight. If it works loose it will smoke, and with this condition, no matter how low the flame, it is almost sure to catch fire.

If you should ever go to the brooder and find it full of smoke, never open the lamp chamber until you have a bucket of water ready to dash into the chamber as soon as the door is opened. The soot and smoke and oil will not catch fire until exposed to the air, but you want to be ready for it just the moment it is exposed.—I. M. S.

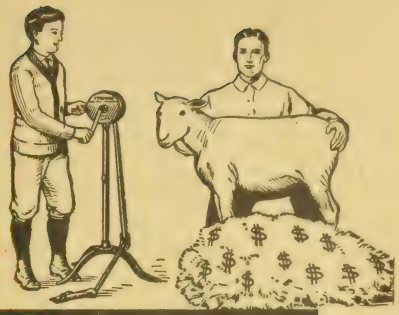
WATER SUPPLY

A running stream offers the best water supply for poultry, and if a stream runs through the place, it will pay the owner to run his fences so the poultry can have access to it.

If a water system is installed in the house or barn, this system should be extended to the poultry houses and yards. This can be done by merely laying a small pipe to the poultry yard, and having the faucet end of the pipe extended over a concrete or stone bowl. A stream of water should be turned on that will slightly overflow the bowl and keep a small stream running in the drain ditch.

If all the drinking water is carried to poultry, the supply of water should be renewed at least three times a day during the warm months. Large milk crocks make better drinking vessels than wooden troughs or buckets. Wooden drinking vessels are a constant menace to the health of fowls. They soon become water-logged and filthy, and it is impossible to keep them in a sanitary condition.—T. Z. Richey.

Shearing the Golden Fleece



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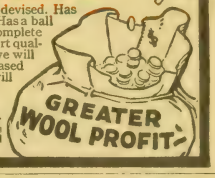

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Langley, **liveryman**, $115 first day; Rasp, **agent**, $1685 in 30 days; Beem, **solicitor**, $161.25 weekly for 12 weeks; Korstad, **farmer**, $2212 in a few weeks; Zimmerman, **farmer**, $3856 in 30 days; Juell, **clerk**, $6860; Hart, **farmer**, $5000; Wilson, **cashier**, $3000 in 30 days. **Let us refer you** to these men, to the **U. S. government**, to banks, business houses, noted people. Heed this caution from Chas. Starr, of Mich. "Sorry this field is closed. **Should have acted sooner** but was skeptical. Your local man's **great success** has set everybody talking and proves **I was a chump. Wonderful what a man can do with a real opportunity.**" Then read this from Lodewick who acted quickly: **"Lucky I answered ad. It's great. Money coming fast."** Which will you be, Starr, a victim of **"neglected opportunities" or** Lodewick, the "early bird" Avoid regret, send a postal this very minute.

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Silos—The Preserve Jars

Holding Succulent Feeds for the Farmer's Stock

By L. M. Johnson

TIME was when silo salesmen were met with all sorts of reasons why a farmer should not invest his money buying silos. Today these objections have been buried, and the only questions to be determined are: What kind of silo? What size? What price?

There are wooden, concrete, brick, stone and galvanized metal silos. Most stand stanchly erect beside barns which their economy helps enlarge, while some few are cemented or bricklined well-like holes in the ground. These last are apt to be dangerous because the carbon-dioxide gas is heavier than air, and the man who descends into them in order to fill the silage-carrying receptacle, runs the danger of having his life snuffed out by the fumes which are hard to dissipate under these conditions.

A silo is really the preserve jar for the farm animals. In it can be packed alfalfa, corn, field peas, clover, vetch, or any of the legumes. These are the succulent foods upon which stock thrives, for their sugary juices and starches are palatable, nourishing, muscle-building and milk-producing. Corn is usually the best silo filler, for the reason that as a general rule more can be grown per acre than any other crop. Another valuable factor concerning ensilage is that corn or other leguminous crop need not be perfect in order to make first-class feed. A poor crop can be turned into such good silage that the farmer could not tell that small ears, scanty foliage, or wobbly stalks had been used. And more important than looks even, is the fact that the stock cannot taste the difference, and thrives as well as though the corn field, for instance, had been a record maker.

Silage is nature's perfect balanced food, because it takes a luscious, succulent, sugary, starchy stock food in its green state, cuts it into not longer than one-inch pieces (one-half inch is best) in a silage-cutter, runs these chopped stalks, corn and foliage through a blower into the silo preserve jar, where it is trampled into a compact mass. It is left to settle for twenty-four hours, at the end of which time it has settled from five to eight feet. This space is then filled up and the silage left to ripen.

A silo must be airtight or non-porous, so that the process of fermentation can be successfully carried on. Other points for the prospective silo purchaser to remember are that if a silo is too large in diameter the silage will deteriorate. It should be twice the height, or more, of the diameter. The silage should always be especially well tamped down next the outside, so as to make the seeping in of air less likely to occur. The bacteria which attacks the sugar fight to live in this densely packed mass of ensilage, and this struggle for existence produces the fermentation which forms the carbon-dioxide gas. This carbon-dioxide gas, which is heavier than air, excludes the oxygen from the top of the ensilage, and thus preserves it in fit condition for stock food. Good silage is reddish-brown in color, and has a slightly acid taste and smell.

Preserve jar and its eager patrons who profitably utilize its succulence

Silage—roughage in a succulent state—is the best food for all stock, but especially so for cattle, (all successful dairymen are silo enthusiasts), sheep, and to a limited extent for horses. Chickens also thrive upon silage especially prepared for them. It is not successful for swine.

Ensilage which is brown or a bit off-colored, can be fed cows, but not sheep or horses, as certain toxins are found in it. If silage, however, is packed in an airtight silo it will always be good. The silage should be leveled off at each feeding, so that sections of it are not given the chance to spoil. Common-sense methods rule here as elsewhere.

The maximum stage of food-production value of corn best adapted for silo filling is when it has reached the roasting ear stage, the ear well dented and the foliage not too green. It should be

cut into one-half inch lengths and well tamped down. Then each particle must be allowed to oxidize before it decays, as per the caution above given regarding keeping it always well leveled.

The silo can be used to advantage the whole year through, for there are really but a scant three months when stock can be well and advantageously fed upon pasture. Then, too, land is too valuable to have it set aside for pasturage in large amounts. The better method is to use a reasonable amount of pasturage, and reinforce this by ensilage and a measure of concentrated protein foods, such as ground corn, cotton-seed meal and linseed meal. This procedure satisfies the appetite of the stock and benefits the owner's purse.

Because of varied conditions and amount to be invested, the selection of the kind of silo is a debatable question. But a silo is a necessity to the farmer who wants to have the greatest measure of success. He is really paying for a silo anyhow. How? you ask. Why because of the same reason that if a labor-saving or expense-reducing tool is needed in an industrial plant, and the firm put off buying that tool for a while, it will cost them just that much more than it would at the time they learned of its value. They pay for it finally, even though they never own it. The silo saves labor, furnishes the food stock waxes fat upon at least expense, and uses up every bit of value latent in legume crops.

ROPES

The use of ropes for transmission and hoisting purposes subjects them to very severe tests. In passing over pulleys the strands of the rope slip upon each other, and the yarns which compose the strands rub against each other. This action causes the rope to be more or less reduced to powder at or near the center, while the exterior remains for a long time unaffected. The result is that, often times, the rope breaks or gives away without any apparent external reason.

The amount of work a rope is capable of doing depends upon several things. The quality of the fibres of which the rope is composed will, of course, influence the capacity of the rope. The condition of the weather in which it is used, in a measure determines the life of the rope. The principal factor determining the amount of work that a rope will do is the sheaves or pulleys over which it runs.

If the rope shows wear on the outside, but is still good at the center it is quite evident it has been rubbed or "chafed" by the blocks. If the blocks or sheaves are very small the sliding of strand upon strand is increased and rapid deterioration follows.

One company manufacturing rope gives the following data for strength, working load, and diameter of sheaves for 1 inch and 1 1-8 inch rope:

Diameter	1-in.	1 1-8-in.
Ultimate strength	7,100 lb.	9,000 lb.
Working load—		
Rapid	200 lb.	250 lb.
Medium	400 lb.	500 lb.
Slow	1,000 lb.	1,250 lb.
Minimum Diameter Sheave—		
Rapid	40 in.	45 in.
Medium	12 in.	13 in.
Slow	8 in.	9 in.

—L. D. Crain, Col. Ag. Coll.

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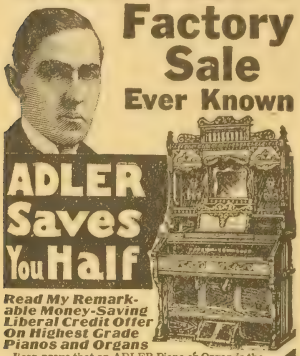

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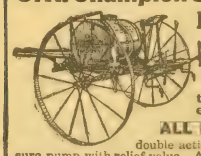

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CONTROLLING INSECT PESTS

To make a success of gardening one must make constant war on the insect pests that subsist on the various vegetables. The best aid in the holding down of insects is a systematic rotation in the garden. Insects are usually partial to certain vegetables, and when the same crops are grown in the same ground year after year they multiply so rapidly that the growing of good crops is almost impossible. On the other hand, when a certain vegetable is not grown two years in the same location, the insect that is partial to that vegetable will lead a precarious existence, and is easily exterminated.

Rotation of crops in the garden should be practiced for the further reason that when this is done, a more balanced state of fertility is maintained. Vegetables feed unevenly upon the fertility of the soil, and if no rotation is practiced, the particular element of soil fertility on which the plant feeds the heaviest will soon become exhausted. A general rule of rotation for the garden is to follow such crops as celery, cabbage, lettuce, etc.—crops that feed heavily upon the store of nitrogen in the soil—with beans and peas—crops that increase the store of nitrogen in the soil. Beans and peas are legumes, and draw upon the store of nitrogen in the air, very much like clovers and alfalfas do.

The farmer who is greatly bothered with insect pests should practice fall plowing. Many insects burrow into the ground at the advent of cold weather and remain in a dormant state until spring. Plowing throws them near the surface where they are destroyed by freezing weather.

CUTWORMS

No doubt, the insect that gives the farmer the most uneasiness is the cutworm. The cutworm is a voracious feeder, and is not partial to any one particular plant. Hardly a vegetable of the garden is immune from attack. Plants can be protected from cutworms by enclosing the plants in collars of paper, having the base of the collars an inch or so in the ground to hold them in position. If, however, the planting is large, this method calls for too much work, and it is advisable to try to control the pest by poison. A good poisoned bait is made as follows: Thoroughly mix two ounces of paris green with five pounds of bran. Sweeten with molasses, and add sufficient water to make a mash. Press into balls and distribute between the plants in the row. Keep out of the reach of poultry.

POTATO BEETLE

The potato beetle is very destructive, and unless the vines are closely watched they will do untold damage before they are noticed. They usually appear in small numbers at first, and lay their eggs on the under side of the leaves. In about a week the young hatch and start out on their foraging work. This is the time to fight them—before they do much damage. Paris green is usually used in controlling the potato beetle, though some gardeners use Bordeaux mixture and arsenate of lead. The paris green mixture is made by using half a pound of paris green to about twenty-five gallons of water. Care should be used in having the mixture no stronger than this, as a solution much stronger would burn the foliage of the plant. The mixture should be applied to the foliage with a spray pump or ordinary sprinkling can. Two or three sprayings will usually control the pest.

CUCUMBER AND MELON PESTS

Cucumbers, melons, pumpkins, squashes and allied vines are subject to the same diseases, and require the same treatment. Downy mildew, leaf blight, anthracnose are the most common diseases, and unless the vines are promptly sprayed at the first appearance of these diseases, they will soon die. The diseases are similar in character, being denoted by dead or yellow spots on the leaves.

Bordeaux mixture will usually control the diseases of cucumbers and melons. The following formula is advised for young plants: Copper sulphate or bluestone, three pounds; fresh stone lime, six pounds, and fifty gallons of water. The copper sulphate and lime should be dissolved separately in twenty-five gallons of water and poured together. This "pouring together" thoroughly mixes the ingredients. If these diseases are present in neighboring fields, it is well to begin spraying as soon as the vines begin to run, and spray weekly during the growing season of the plants. Cucumbers and melons grow rapidly, and frequent spraying is necessary to keep the leaves coated with the spraying material.

Lice on cabbage can be controlled by spraying with kerosene emulsion, made by mixing a quarter pound of dissolved laundry soap,, half a gallon of kerosene and five gallons of water. Cabbage worms can be destroyed by sprinkling the plants with strong salt water.—T. Z. Richey.

STARTING MONEY-MAKING VEGETABLE GARDENS

By William Galloway.

Fully 90 per cent of the people who start a little vegetable garden with a view to marketing their product complain that they are unable to get a fair price for it. The reason is simple. Prices are regulated by supply and demand.

When the average grower takes his cabbage, tomatoes and cauliflower to

market he finds his neighbors are all there with their produce too. The market is overstocked and prices in consequence of competition are low. The man making big money today with vegetables is the one who can get his produce upon the market before his neighbors. This is so comparatively easy that anyone with the average garden outfit can do it.

Buy your seeds early. Prepare your hotbed and get them started. Maybe you have no hotbed and perhaps do not know how to prepare one. Let me tell you. The best time to prepare a hotbed is about the beginning of March.

Get a few loads of fresh stable manure, sufficient to cover the space you intend to build your frame upon to a depth of not less than 30 inches; pack down firmly, then place your frame on the manure. The manure should extend at least a foot beyond the sides of the frame. Cover the manure inside the frame with six inches of sifted soil. The frame will then be ready for the seeding. Hot-bed sashes for covering can be bought for about 75 cents each and will last for years.

Now we come to the real secret of early vegetables—everything depends upon the system of transplanting. When the young plants are ready for transplanting, prick them off into pots or cans sufficiently large enough to allow of good growth; have the tomato pots not less than four inches across and the cabbage and cauliflower and similar plants not less than three inches across. This will give them a chance to develop into fine, big healthy plants by planting-out time. Before planting out, water well so that the soil and plant can be turned out of the pots without disturbing the soil around the roots. The best time to plant out is after sunset, as at that time the plants get no setback and continue to grow as though never disturbed. If this plan is adopted, vegetables fit for market can be produced at least two or three weeks earlier than when grown in the old way.

PLANTERS OF EARLY POTATOES TAKE NOTICE!

Truck growers who annually plant a considerable acreage of potatoes are warned by the United States Department of Agriculture that there was, on January 1, 1915, a very much larger supply of northern-grown potatoes in the hands of growers and dealers than was the case January 1, 1914. Experience has demonstrated that a larger hold-over crop of northern-grown potatoes which is in good condition and selling at a reasonable price when the early truck-crop potatoes reach the market means low prices,—sometimes so low that the shipment of such crops nets a loss to the grower. Under such conditions a small acreage means a smaller loss than a large acreage.

With 43,000,000 more bushels of potatoes in sight January 1, 1915, than were available at the same time last year and with a 1915 price of 43.2 cents as compared with 66.2 cents a year ago, a price which under the then existing conditions did not improve before the truck crop began to move, there is little hope that the conditions will be better this year. The price now is just 33 per cent less than it was a year ago. The distribution of the crop is much better than last season.

The Agency of a United People

A striking comparison between a homogeneous country and a heterogeneous group of countries is obtained by placing over the map of the United States the map of Europe. These represent the same area—about 3,000,000 square miles—if a few of the remote provinces of Russia are omitted.

Europe has the advantage in population, with more than four times as many people as the United States; in the number of large cities, with two and a half times as many cities of over 100,000 population.

Yet the United States, a comparatively young country, has outstripped Europe in the diffusion of civilization, because of its wonderfully greater means of communication between all parts of its area. The United States not only excels in transportation facilities, but it has nearly three times as many telephones as Europe, or about eleven times as many in relation to population.

By the completion of the Transcontinental Line we now talk from one end of this country to the other, while in Europe the longest conversation is no farther than from New York to Atlanta, and even that depends on the imperfect co-operation of unrelated systems.

Europe, with twenty-five countries and many different languages, serves as an illuminating contrast to the United States, with one language and a homogeneous people, despite the fact that our population has been derived from all parts of the world.

During the last forty years the steadily extending lines of the Bell System have contributed in no small measure to this amalgamating of different races. The latest achievement—the linking of coast to coast—has given greater force to the national motto, "E Pluribus Unum."

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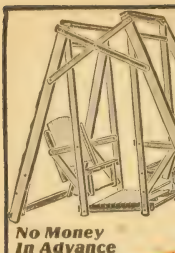

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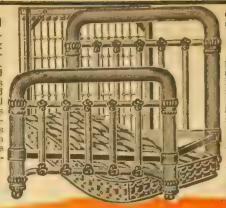

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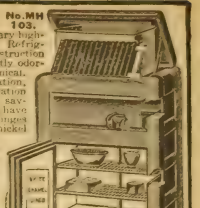

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Buckwheat and Beans

Two Salable Crops Particularly Adapted to Many Farms

By Lester J. Meredith

Conditions and prices of grain and staple food-products warrant farmers making every acre of land produce some salable product. Two crops that seem particularly adapted to many farms are buckwheat and beans. These crops are well suited to odd places on the farm that are left after the principal crops are planted.

On many soils buckwheat is a profitable crop. On many farms considerable of the land will grow better buckwheat than anything else, and when the spring's work is pressing there are certain fields than one cannot always get seeded with corn, oats and other crops that are grown in the rotation. It is better to sow buckwheat than to sow spring grains out of season. The crop will thrive on a soil deficient in organic matter better than other grain crops, and when commercial fertilizers are applied it is quite certain to produce a fair crop. One reason why the crops of grain are comparatively small is because the land is plowed late, hastily fitted, and the seed sown in a careless and indifferent manner.

In order to secure a good stand and insure an even start the land should be plowed at least two weeks before the seeding is done and harrowed frequently, so as to conserve moisture and insure a well-packed seed-bed. When the land is plowed late and the soil hastily fitted, the young plants suffer from the drouth at the most critical stage of their growth.

The common method in this latitude is to sow the crop about the first of July, so that the seed formation takes place just before the early frosts, while the weather is cool and dry. The crop has no regular place in the rotation, being used mostly as a catch crop on soils too poor for profitable culture of the other cereals. The usual quantity of seed sown is about a bushel per acre, and a common grain drill is used for seeding, and the fertilizer applied at the time of seeding. My experience has been that better results come from using a high-grade fertilizer, although many good farmers recommend a fertilizer rich in phosphorus in a quickly available form. The best crop we have ever grown was raised with a high-grade potato fertilizer which we had left over from potato planting. The best varieties for this locality are the Japanese, although some growers sow mixed seed.

Beans require a richer soil than buckwheat. Land that will produce good crops of wheat will grow good beans. After growing this crop in a moderate way for several years we are convinced that it is one of the best money crops farmers can grow. Beans usually fetch a good price, are easy on the soil, and can be kept until prices are right before marketing the crop. Beans, wheat and clover make an excellent rotation for the farm where but little stock is kept.

When a field of beans has been well worked, and the crop harvested, the soil will be in the best possible condition for the wheat that follows in the rotation, without plowing, and can then be seeded to clover. We find that eight or ten loads of manure applied with a spreader will give good results for this crop, but the crop also responds admirably with fertilizer.

To secure the best results the ground

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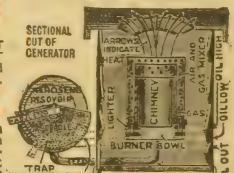

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D. CARN, IND., writes: **"It cost me only 4½ cents a day for fuel."** **L. NORRIS, VT.,** writes: **"The Portable Oil-Gas Generators are wonderful savers of fuel, at least 50% to 75% over wood and coal."** **E. ARNOLD, NEB.,** writes: **"Saved $4.25 a month for fuel by using the Portable Oil-Gas Stove. My range cost me $5.60 per month, and the Portable only $1.25 per month.** **M. KING, VA.,** writes: **"Using one Burner and Radiator, I kept a 16x18 foot room at 70 degrees, when out doors 13 to 20 degrees were registered."** **REV. WM. TEARN, ME.,** writes: **"This morning 16 below zero, and my library far below freezing point. Soon after lighting the Portable Oil-Gas Stove temperature rose to summer heat."** **WM. BEARING, IND.,** writes: **"We warmed a room 13x14 feet, when it was about 10 below zero with one Radiator."**

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World Mfg. Co., 6313 World Bldg., Cincinnati, Ohio.

should be plowed as early as possible, and cultivated frequently before the beans are planted. This gives the weeds a chance to germinate, and later harrowings will kill the young and tender weeds that may have started, and also assist in conserving moisture. If a field is treated in this manner, and as many of the weeds destroyed as possible, a good seed-bed is insured, and it will be easier to cultivate the first time. A weeder is an excellent tool to go over the ground and remove the crust just before the beans are coming up, and makes the soil in better condition for the cultivator to do effective work. Beans should never be worked while wet. Keep up frequent and shallow cultivation until the pods are set.

In this latitude the early part of June is the best time to plant beans. If planted earlier they are in danger of being attacked by the weevil or bean maggot, which is quite common in beans planted earlier. The harvesting of the crop is not so difficult as many seem to think. Some object to the modern bean harvester for the same reason that they object to all kinds of improved machinery; but if conditions are right, and it is well handled and adjusted, the waste is less than when harvested in the old-fashioned way.

We plant in rows 28 inches apart, at the rate of about one-half bushel to the acre. A bean drill is used, and set so that the seed will be planted about two inches deep. Twenty bushels is considered a good yield, although many growers grow above twenty-five bushels per acre.

When the beans are laid on the ground after being pulled they should be turned every day to prevent coloring, and when put in the mow it is best to place them so that they will not pack down firmly and exclude the air from circulating through them. Some growers have the men working in the mow stand on boards, so as to prevent treading the beans down. If they are dry it is all right to have them threshed, but many prefer to allow them to cure in the mow the same as other grain.

TEMPERING

Among the many secrets of tempering is the employment of the lead bath, which is simply a quantity of molten lead contained in a suitable receptacle and kept hot over a fire. The uses of the bath are many. For instance, if it be required to heat an article that is thick in one portion and thin in another, every mechanic knows how difficult it is to heat the thick portion without overheating the thin part. If the lead bath be made and kept at a red heat, no matter how thin the article may be, provided sufficient time be given, both the thick and the thin parts will be evenly and equally heated, and at the same time get no hotter than the bath in which they are immersed.

The lead bath is unequalled for heating thin cutlery edges, springs, surgical instruments, and for softening the tangs of tools, etc.

Small tools, such as engravers and watchmakers use, may be hardened by heating them to a whiteness and then plunging them into sealing wax, withdrawing after an instant and plunging in again, the process being repeated until the tool is too cold to enter the wax.

PRIZE CONTEST PUZZLE

This puzzle picture shows you one of our friends driving an automobile and one of our boys driving a Shetland pony. This boy and girl have six friends besides those in the machine whose faces are partially hidden in this picture. It is not very easy to find these faces of their friends but by close search and by twisting and turning the picture around they will be revealed to you. Can you find them?

YOU WILL WIN A PRIZE

If you do! Try it, don't give up. It will pay you. When you have found four of the faces, mark each with a cross (x), cut out the picture and mail it to us. When your answer to the puzzle is received we will send you a prize that we guess will please you. We will also give you 2,000 Free Votes and send you a Certificate of Entry in either our automobile contest or our pony contest, and we will tell you all about it. We are giving away all kinds of prizes for just a little effort.

You can win, if you try. It is a great opportunity. Write us today, sending your answer with 2 two-cent stamps, and this will help pay the mailing charges on your prize which you have won. We will send you, also, as an extra reward a copy of each of three popular publications worth 15c.

MEN and WOMEN—BOYS and GIRLS

Attention! State in your reply whether you would rather enter the pony contest or the automobile contest. Write your name and address plainly so there will be no mistake.

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Summer Forage for the Dairy Herd

It is Best to be Prepared Against the Day of Drouth

By Lester J. Meredith

THERE are few years that we do not experience a drouth, more or less severe, at some time during the season when the dairy herd is out to pasture.

Even in the most favorable seasons the quantity and quality of the pasture-grass is certain to deteriorate after the first of July. The most practical and economical method of supplying an abundance of suitable foods during these dry times is to grow some of the early maturing forage crops to supplement the pasture. It is many times advantageous to hold over a portion of the silage rather than to grow forage crops to harvest and feed to the cattle.

Many supplement the pasture with a light grain ration and neglect to supply succulent foods, but the high price of all grains and concentrated dairy foods makes their use actually prohibitive to the average dairy farmer. Then it will usually prove unprofitable to feed these grain feeds unless the cows have sufficient grass and forage to give the proper stimulus of distension to their digestive organs. There are a number of excellent crops that may be grown to supplement the pasture, but in actual practice we have found alfalfa, red clover, oats and peas and sweet corn the most profitable and nutritious of forage crops for dairy cows.

Silage possesses numerous advantages for early succulence, for it is at hand many times when it would be difficult to get spring crops available for early feeding. An acre of corn in the form of succulent food will produce more valuable feeding nutriments than any other forage crop. The feeding value of silage is so well known that it is useless to discuss its merits.

On all farms where alfalfa will thrive it will afford a maximum amount of palatable and nutritious forage, oftentimes giving as high as fifteen to twenty tons of green forage to the acre. All of the crop that is not fed green can be cured for hay. It may be cut green at various times during the summer, until late in the fall.

Alfalfa thrives best on warm and fertile soil, with a loose, gravelly subsoil. A heavy clay or hard-pan subsoil is the most unfavorable. Although this crop thrives best on a rich soil, it ofttimes does well on a poorer gravelly soil. The plants consume large quantities of water, but will not survive long in a saturated or flooded soil. If water stands for any considerable length of time within a few feet of the surface, the crop will be injured. I would advise all dairy farmers to try a small patch of alfalfa. It is an exceedingly valuable soiling crop and very suitable for hay. The hay should be cured carefully, so as to avoid the loss of the leaves, which contain the most valuable food nutrients.

At seasons of the year when available, red clover is one of the most valuable forage crops for dairy cows, but owing to the short period of time when it is available it is not safe to place too much dependence upon this crop. In feeding value it ranks somewhat lower than alfalfa, although when in full bloom it furnishes a heavy yield of nitrogeneous forage, and it is an excellent food for muscle, bone and milk production, forming a well-balanced food for dairy cows and young growing animals. Like alfalfa, there need be no waste, for it will make excellent hay for winter feeding if not cut and fed green.

Six tons of excellent oat and pea forage, containing more than two tons of dry matter, can be grown on an acre. This crop must be sown early, and at several intervals about one week apart. We have found it best to sow about equal parts of each kind of seed, using about three bushels of the mixed seed to the acre. It is ready for feeding as soon as the oats are in the milk stage of their growth. It also makes excellent hay to harvest for winter feeding. Some farmers advocate sowing the pea seed a few days ahead of the oats. This plan would meet with our approval were it not for the fact that there are numerous conditions, over which we have no absolute control, that many times make it impossible for us to sow the oats at the desired time.

In many localities in close proximity to large markets and canning-factories sweet corn will prove a profitable cash crop, and the stalks and nubbins will provide an excellent forage for the dairy herd for a number of weeks during the late summer and early fall. At times when the roasting ears will not bring a good price in the city market or at the canning-factory, the whole crop may be profitably fed to the cattle. Sweet corn does not make satisfactory silage, but for green feeding it is vastly superior to the common field corn.

Does it pay? This question sooner or later comes up in all branches of agriculture. Does the increased amount of milk pay the added expense involved in producing and harvesting these forage crops? Looked at from the standpoint of immediate profits, I would say "yes"—but not large, perhaps about three dollars a cow during July, August and September. But looked at it from the standpoint of maintaining the herd in vigorous condition, and having them in shape to do their most efficient work during the fall and winter seasons, I would say it amounted to a much larger amount per cow.

My figures are based upon feeding a herd of cows that are being milked during the whole year, and not allowed to go dry in the fall. While my conclusions have been formed more particularly from the city-milk-production standpoint, yet it can readily be seen

that the conclusions reached would be fully applicable to milk-production for any other purpose.

I believe that while feeding green soiling crops we should feed a little grain all of the time. No kind of forage-plant that we can grow will afford the same nutriment as the short, tender pasture-grass. From my experience and observation it is not only possible, but very profitable to plan a system of soiling crops to supplement the pasture during the dry weather. By using such crops as will make the best hay for winter feeding, the loss of what is not needed for soiling purposes will be reduced to a minimum.

"Like Begets Like"

(Continued from Page 9)

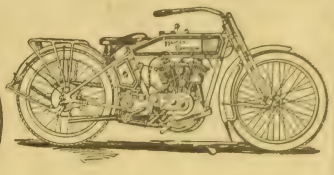
acre. He only knew that it was wheat and that "like begets like."

I have seen farmers do that thing in other years—hundreds of them—enough of them in a great many years to convince me that tens of thousands of farmers every year in this land of school-houses, sow mean, sickly grain and look for it to beget a fairy-tale crop.

Doesn't every farmer know that within that small kernel there is something he cannot see with his eyes? That wrapped within its little heart is LIFE? That while he may never understand its mysteries, experience shows that life abounding comes from its own kind, and not from weakness, and disease and death? They say that "seeing is believing," but how about that other ancient saying, "having eyes they see not?" That might be interpreted to mean that having eyes of blue or brown set in their faces, they see nothing with the inward eyes of the imagination and understanding. When a thing gets too small or too far away for the outward eye, we cannot see with the eye of faith.

Well, the showing goes on, year after year, by those who see that there is more to a kernel of wheat than a little ball of starch with a brown overcoat and a yellow chit.

The season, the soil, the seed, the tillage make up the harvest, and the greatest of these is the seed. If I wanted to raise forty bushels of wheat to the acre I would begin by sowing forty-bushel seed, and I would expect to get it—other things being equal—as confidently as I would expect to reap Turkey Red from Turkey Red. There is wealth for the farmer who raises forty bushels of wheat to the acre, and there is loss to him who raises fourteen. It is all as plain as a pikestaff, but not every farmer knows a pikestaff.



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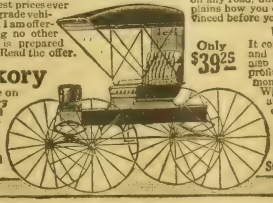

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HOW TO CURE SOUR SOIL

By F. A. Kuhn.

Sour soil is usually caused by improper circulation of moisture through the subsoil. Moisture that lies dormant will cause acidity. This condition will be found in soils with a hardpan subsoil lying close to the surface.

We all know how water that stands in ponds or marshes become stagnant. We also know that running water is nearly always sweet. Stop the percolation of water through the top soil and subsoil, and you will soon have a very fine piece of sour land.

Lime has been used with good effect in effecting a temporary cure. In order to get away from the acid conditions the subsoil must be treated as well as the top soil. By making the subsoil porous, and neutralizing the acid in the subsoil, the sourness in the top soil will disappear. The following incident discovered by accident, revealed an efficient method of treating for this condition. There was a sour patch in a field that never gave anything toward the crop, although it was seeded each year with the balance of the field.

This patch was to be limed, but before applying the lime, a large boulder had to be removed. This boulder made it hard to cultivate in its vicinity, and it was too large for the horses to handle, so dynamite was resorted to. The boulder was first blown out, and then cracked with 30 per cent dynamite. The field was then plowed and limed. This was done in summer.

In the fall the land was prepared for rye. The rye made a good growth and wintered well. In the spring it responded to the warm weather and grew fine. Before it was cut an examination of the field was made, and while the whole field did better than usual, the place where the blasting took place was better still. The rye stems were longer and thicker, and carried larger heads.

Owing to this accidental discovery, this field will receive an entire subsoiling treatment with dynamite. A lower per cent of dynamite will be used, (about 20 per cent). The dynamite will be discharged in holes three feet deep, and about fifteen feet apart each way, using a half stick of 20 per cent dynamite to each hole.

What was found out on this field only goes to show that in order to get the best results from liming a sour soil, the subsoil must be taken care of, so that while the lime acts on the top soil it will likewise act on the subsoil. The lime cannot do this alone unless the subsoil is porous.

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For intense and perfect color, no other rose compares with this. A grand grower, a vigorous, shapely bush with delightful fresh green foliage. Flowers beautifully built, full, double and perfectly molded, with a glorious rosy scarlet color at once soft, bright and lasting.

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A distinct new variety having no equal in color, growth or beauty. Flowers are deep orange-copper and golden yellow, extremely brilliant in effect.

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This big yellow rose is in a class by itself. A sturdy, vigorous grower, with long, strong stems holding the beautiful, pointed buds upright, especially desirable as cut flower. Buds open delicate yellow, changing to deep golden with a most delicious fragrance.

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FENCE BUILDING

A farmer's fences are his individual trade-mark. They stamp his farm as well-kept or slovenly, well-managed or aimlessly. They leave a more prominent mark on the landscape than his farm buildings. Bad fences are one of the most frequent sources of injury to stock, law suits and neighborhood quarrels. Good ones have the reputation of making good neighbors. These are good reasons why we should look well to our fences and keep them in good order.

One of the most interesting examples of our agricultural growth can be seen in the evolution of the fence. Stone, rails, boards and barbed wire are rapidly being replaced by woven wire. Efficiency, safety, low cost of material and building and humanity are strong

points in favor of this style fence. Barbed wire fencing may still be used to good advantage with woven wire.

In buying wire fencing one should keep in mind quality of wire, weight per rod, and the efficiency of the galvanizing. If a man has plenty of time and help he can save quite a sum of money by buying the materials knocked down and making the fence on the ground. The points in favor of this style of fence are: first, it may be made of heavy wire; second, the horizontal wires may be drawn on the same tension; third, it is more easily and satisfactorily built on uneven ground.

The woven wire fence, with or without barbed wire, has all of the good points that could reasonably be asked for in a perfect fence. It cannot blow down, it occupies but little space, it requires fewer posts and may be moved quickly if desired, and a long span can be put up in one day by two men.

Good posts are the foundation and life of the fence. Cost and durability are the points to consider in selecting fence posts. Cement posts can be made at a cost of about 20 cents each, and unlike the wooden posts they improve with age. Care should be taken in selecting and setting end posts. They should be very large, made of the best materials, and be set so that they will not twist in the ground or pull out if the strain of the fence should be upward.

There is no use trying to put up good woven-wire fences unless you have all of the necessary tools. The best stretcher is one that you can pull either at the top or bottom, as may be desired. The clamp-bar that clamps each bar separately has advantages over one that clamps all at once. It makes it possible to keep all of the wires at even tension at the same time.

Each set of tools should include a small stretcher to finish from the clamp bar to the end bar. Wire pliers and staple pullers are necessary. Some kind of an arrangement to which the team can be attached should be used to unroll the fencing. If the ground is clean and level it is best to pull the fence on the ground until it gradually comes up into place. In crossing low places pulling straight across and weighting down will solve the problem. Always anchor the lower posts, to prevent them from pulling up. Take time to grease the staples, and see that they are driven properly. It is no easy matter to drive a staple properly into hardwood posts.

If one has never put up woven-wire fencing it will pay to hire a man who is accustomed to the work to help with it. Each make and type of woven-wire fencing brings up new problems in putting up and stretching. What I have said applies more generally of woven-wire fencing than to any particular make.

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It heals Barb Wire Cuts, Sore Shoulders, Old Sores, Ulcers, Wounds, Sore Teats of Cows, takes out the soreness of inflamed udders.

Solve This Puzzle and Win a Prize

Here are seven sheep in a pen. By drawing three straight lines you can put each one in a pen by himself. If you can do this we will send you as a prize, a packet of five beautifully embossed postcards lithographed in rich colors, and also a certificate of entry in our grand contest for a $395 Saxon Automobile. All you have to do is to enclose two pennies in your letter to pay postage and cost of mailing.

Saxon Car Given Away

Remember the Saxon car will absolutely be given away at the close of this grand contest. In case of a tie a Saxon car will be given to each person so tied. Send your answer at once so you can be entered in this great contest. Full particulars by return mail.

POPULAR CO., 294 Popular Bldg., Des Moines, Iowa

THE PRACTICE OF DISKING ALFALFA

Numerous requests for information with reference to the practice of disking alfalfa has reached the writer, and as the season now approaches for this operation on the farm, some of the questions involved may be profitably covered in a short article for the readers of Farm News.

Many farmers practice disking their alfalfa fields, and a fair percentage claim that it is beneficial. And it is for the plants which the disks do not touch, but for those which are split or have the crowns cut off it means approaching dissolution, for wherever the plant is touched by the disk in any way to cut into it there is created an opening for decay, which in a very short time leads to its destruction, clear to the end of the root system.

The creation of the disk was in answer to a demand for such an implement, and now that there is a demand for an implement to stir the soil around the alfalfa plant without injury to the plant, experiments are being conducted by one of the leading manufacturers of implements of this sort to furnish just the right tool for this work. And there is ample grounds for assurance that this problem will be met by the manufacturer with the same marked degree of success as has characterized all of his efforts in behalf of progressive agriculture.

A man may take a chance on disking his alfalfa, and trust in luck to not do serious injury to his crop. He may even succeed once in this way, but there is always a turn in every man's luck.

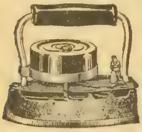
NEW INVENTION

Wonderful Self-Heating Iron NOTHING ELSE LIKE IT.

MAKES AND CONTAINS ITS OWN HEAT

Convenient—Economical—Safe. Saves Its Cost Every Month.

SEE HOW SIMPLE—DIFFERENT—**EASY.** Light—Iron—turn out when finished—that's all. NO HOT STOVE—SAVES MILES OF STEPS—actually makes ironing a pleasure.



The New STANDARD Self-Heating IRON

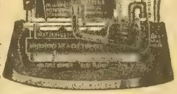
AIR-GAS BURNER

Gives Correct Heat, Perfect Service, Economy, Comfort.

The "STANDARD" is stove, fuel, heat **ALL IN ONE—FIRE INSIDE.** Carry it about, go where you please, don't stay in hot kitchen; iron any place, any room, on porch, or under shade-tree. Go right along, one thing after another, works while it's heating, heats while it's working; saves miles of walking.

CHEAPEST FUEL

All kinds of clothes **Ironed Better in Half the Time.** No waiting, **no stopping** to change irons, right heat. Easily regulated, nothing wasted, Iron on table all the time, one hand on the iron, the other to turn and fold the clothes. The "STANDARD" is neat, durable and compact, all parts within radius of iron and handle, **No TANKS** or fittings, standing out at sides or ends, to hinder or be in the way. No wires or hose attached to bother. **No PUMP.** RIGHT SIZE-RIGHT SHAPE—RIGHT WEIGHT, cheapest fuel, **One Cent Does Ordinary Family Ironing.** Every Iron tested before shipping. Ready for use when received.



Sectional View.

WHAT USERS SAY—**ALEX. STALKER, New York,** writes—"The **Standard** is **most useful** and **time** and **money saving** device that was ever made. Finished a large ironing in two hours which usually took half a day with old style Sad Iron." **J. C. KING, Illinois,** writes—"Well pleased with your **Standard.**" **I. N. NEWBY, Illinois,** writes—"I find your Iron all you claim for it." **G. E. WARD, Indiana**—"Your Iron is fine." **MRS. CAROLINE KOTZ**—"Your Standard gives splendid satisfaction." **MRS. MELVIN MAUBER**—"I find your Iron as represented, **well pleased.**" **MRS. W. B. FOURMAN, New York**—"Your Iron is a perfect success, and I am **enthusiastic** over what it does and economy in its use."

NOT SOLD IN STORES

An ideal invention for every home. No carrying coal, kindling, ashes, soot, dirt; absolutely safe, durable—**LASTS FOR YEARS.** Air-gas fire, perfect combustion; for more heat or less heat, simply turn knob, then it is self regulating, requires no more attention. Nothing to get out of order. **Price Low.** Sent to any address. **Send no money. Write today for our 30-day offer, full description, catalogue free.**

WHIRLWIND SUCCESS FOR AGENTS

We want men and women, home or traveling, all or part time, to exhibit, take orders, and appoint agents. **"Standard" A NEW ARTICLE**—not worked to death—sell quick—easy. **All Year Business.** Experience not necessary. Sells on merit—sells itself. They buy on sight. Every home a prospect. **Every woman needs it.** Price low—all can afford it. **HOW THEY DO SELL**—Even 2 or 3 a day gives $27 to $40 a week profit; six sales a day is fair for an agent—some will sell a dozen in one day. Show 10 families—sell 8. Not sold in stores. **SEND NO MONEY.** Write postal today for description, agents selling plan, How to get **FREE SAMPLE.** Address

C. BROWN MFG. CO.
4513 Brown Bldg. CINCINNATI, OHIO.

23 RUBY JEWEL $35 GOLD WATCH $3.50

Here is the watch you have always wanted. Sent you at our risk and expense. **Send no money, not even a deposit. We pay all charges.** Write if you prefer open face or hunting case, ladies' or gents' watch and we will send you all charges paid, for free examination and test this beautifully engraved **1915 THIN MODEL 25-YEAR GUARANTEED AMERICAN MADE WATCH.** If you are satisfied with it and are sure it equals a $35 gold watch, pay us only $3.50 and the watch is yours. **DREXEL JEWELRY CO., Dept. 335, Chicago**

FOR SALE—Pope Motorcycle

Model K Big Four, single-cylinder, brand new; never used; never uncrated, taken for debt. Price $115 cash. Address **M. J. Bray, 424 Franklin St., Springfield, Mass.**

DISTRIBUTORS WANTED GOOD PAY; Steady Work; giving away packages. Perfumed Borax Soap Powder with our Soaps, etc. No capital or experience needed. **Y. WARD & CO., 210 Institute Pl., Chicago**

EASILY GROWN VEGETABLES

Radishes, lettuce, beans, beets, and tomatoes are all comparatively easily grown vegetables, which give satisfactory returns in the spring garden. The U. S. Department of Agriculture's specialist recommends these particularly for use in school gardens which are run for the benefit of the children.

Radishes—Radishes are hardy plants and thrive best during the cool weather of early spring and late autumn. In the South they can best be grown during the winter and early spring months. The seeds should be sown in drills, in rich, well-prepared soil, placed about half an inch apart and buried not deeper than one inch nor less than one-half inch. When the plants are showing the second set of true leaves they should be thinned to stand from two to three inches apart in the row.

Lettuce—Lettuce is a hardy plant and thrives best during early spring and late autumn. The seeds should be sown in drills in the open or in boxes in the window. If in the open, the seeds should be scattered about one-half inch apart along the row, and covered not more than one-half inch with earth. Firm the earth well over the seeds, so as to bring the moist soil in contact with them. When the plants are well up, thin to six inches apart in the row. If the seeds were sown in a window box, hotbed, frame, or greenhouse, transplant the young plants to stand two by two inches apart as soon as the seed leaves are well expanded, and when they begin to crowd transfer them to their permanent places in the open, if the weather will permit.

Beans—Beans are tender plants. They can not endure frost and will not stand transplanting well. It is best to wait and plant the seeds of this plant in the open where the plants are to grow, delaying the work until severe frosts are past. Plant in rows one foot apart, placing the seeds about two inches deep at intervals of six inches.

Beets—Beets, while they are hardy, and can be planted at the same time as radishes and lettuce, require a longer season for maturing. The seeds should be planted in rows one foot apart, placed an inch apart in the row and covered one inch deep. When the plants are well up (two inches high), thin to four inches apart in the row.

Tomatoes—The tomato is the most exacting of all the plants included in the collection. From Washington southward the seeds may be planted in the open at the same time as beans, but to the north of this point the seeds should be sown in boxes, hotbeds, or greenhouses from the first to the middle of March, the young plants being transplanted to stand two by two inches apart as soon as the first true leaves appear. When they begin to crowd in their new position, shift them to four-inch pots or to cans such as are used by canners of tomatoes, and keep them growing slowly until about May 20 to June 1, when it will be safe to place them in their permanent locations in the garden. Set the plants in rows eighteen inches apart, and place the plants about twenty inches apart in the rows. Each plant as it grows should have all side branches removed and the main stem tied to a stout stake, about five feet tall and at least an inch square, driven firmly in the ground.

This Girl Could Not Walk or Stand

—at the age of four

Pink Vosburg, daughter of Mrs. Sula Vosburg, Bedford, Ia. Mrs. Vosburg brought her daughter to this Sanitarium January, 1911, for treatment of Infantile Paralysis. The child could neither walk nor stand alone, but could only crawl on her hands and knees. She was here eight months; now walks, goes to school and gets about splendidly. Mrs. Vosburg will affirm the above.

This is not a selected case, nor are the results unusual.

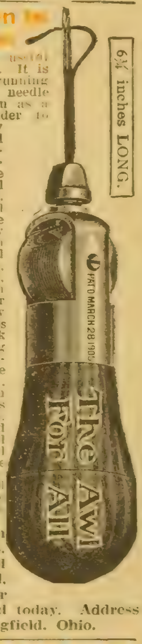
The L. C. McLain Orthopedic Sanitarium

is a thoroughly equipped private sanitarium devoted exclusively to the treatment of crippled and deformed conditions, such as Club Feet, Infantile Paralysis, Hip Disease, Spinal Diseases and Deformities, Wry Neck, Bow Legs, Knock Knees.

Let us advise you regarding any crippled, paralyzed or deformed child or person in whom you may be interested. It will cost you nothing, and in view of over 30 years' experience in this work, our advice should be valuable. Our Pamphlets and Book of References will be sent postpaid and free of all charge, on request.

The McLain Orthopedic Sanitarium
948 Aubert Avenue, St. Louis, Mo.

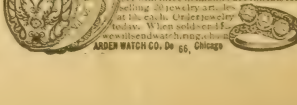
This Awl Given



It is surprising how useful this little implement is. It is made with a groove running the full length of the needle and has what is known as a diamond point. In order to sew leather, or any heavy thick material without breaking or cutting the thread, it requires an awl with the groove running full length of the needle. You might just as well have no groove in the needle as to have it only part of the way. With this awl you can sew old or new harness, saddles, carpets, canvas, tents, rugs, quilts, shoes, grain bags and many other things. You can use any kind of thread in this awl, and it makes a lock stitch same as a sewing machine. It is very simple; a woman can use it as well as a man. They are put up with two needles — one is straight and one curved. Also a reel of waxed thread with each awl ready for use. The Awl is nicely finished, the metal parts are nickel plated, the needles and wrench are kept in the hollow handle, which has a screw top.

We will send Farm News two full years, new or renewal, and this fine Sewing Awl, all postage paid, for only 75 cents. Send today. Address FARM NEWS, Springfield, Ohio.

FREE WATCH



We positively give free a beautiful, gold-finished, engraved American made, stem wind, stem set watch, proper size, guaranteed five years. Also a beautiful ring set with three diamond cut brilliants for selling 20 jewelry articles at 10c each. Order jewelry today. When sold send $2, we will send watch, ring, ... ARDEN WATCH CO. Dept. 66, Chicago

WHEN "EGGS IS EGGS"

The writer received a letter not long ago from a farmer in a mid-western state, in which he said, among other things, that it "didn't pay him to take special pains with his market eggs, because the merchants wouldn't pay any more for the good ones than for the bad ones."

If all farmers feel that way it is no wonder that the Illinois State Food Commission reports that in 1913 the farmers in this state lost $5,500,000 by improper handling of eggs.

With due respect to my correspondent, I wish to say frankly that I do not believe what he says. I do not think it possible for him or any other man to take a dozen clean, fresh eggs to town, and a dozen of the kind the boys find out in the jimson-weed patch, or under the barn after Old Biddy has done her worst, and receive the same price for each lot. It isn't human nature to like bad eggs, and the grocer or local commission merchant can sell strictly fresh for more money than they can rotten stock. It is all nonsense to say it does not pay to take pains with eggs. The truth is it doesn't pay to be careless with them, as shown by the official report quoted above.

This report is based upon the almost universal fact of buying eggs on the "loss-off" principle, which virtually amounts to a guarantee of quality by the seller. In the end the producer bears the reduction in price for stale, spoted, dirty or decayed hen fruit. This loss is due to ignorance and negligence, rather than to downright dishonesty, although the evidence shows there is plenty of the latter.

If the farmer's family would follow a few simple rules they could market choice eggs at all seasons, and get the price such eggs command, instead of trying to palm off uncertain or mixed or positively disgraceful lots, which invariably fetch low prices, or none at all.

These rules are to gather the eggs every day, and twice a day in hot weather; to put them at once in a cold place; to see that they are clean, but not to wash them; to sell stale or questionable eggs as such, and separately from those known to be good; to handle as little as possible, and to pack them so carefully that they will not become cracked or broken; to kill or sell off the surplus roosters, and after the mating season, to separate all the males from the laying hens, thus producing only infertile eggs for market; to send to the Department of Agriculture for "Year Book Separate No. 552," and learn by reading it how to candle eggs and grade them, so you will always know just what you are selling, and how to meet the demands of the markets.

The farmer who will date with a rubber stamp each egg showing when it was laid, and get these in good condition quickly to a discriminating retail trade, can demand fancy prices without adding much labor. All he will really need is to invest in a little extra brains.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

Wait! Don't Buy Any Buggy Till You Get My Bargain Book

Don't waste your money paying double profit on high-priced buggies. Isave you $25 to $50 and send you my luxurious buggy on 30-day road test.

I have saved thousands of dollars for farmers and will save you money. Get my new proposition now. It is a big winner. I make it easy for you to own a new buggy this year. Bohon's "Blue Grass" Buggies have earned a big reputation for quality, style, and service. You'll be proud to ride in one and will save money into the bargain. "Blue Grass" Buggies sold on

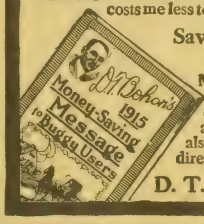
Unlimited Guarantee

Backed by a $30,000 Bond

I sell you direct from my factory. That's how I save you $25 to $50. There's no middleman to tack on expenses and profits. No agents or traveling salesmen. Nothing but my Big Bargain Book—and Uncle Sam carries it anywhere in the country for a few cents postage.

I build perfect buggies because I'm a buggy specialist. Have done nothing else for years. "Blue Grass" Buggies are made of straight grain second growth hickory. They have full wrought gears, steel braces at all points of strain and are in every way as high grade as a buggy can possibly be built.

I sell them for less because it costs me less to sell them.

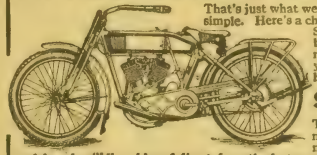


Save $25 to $50—Send for This Free Buggy Bargain Book Free

My big book is crammed with buggy bargains. Surreys, runabouts, phaetons, etc. No matter what kind of buggy you want, you'll find one here to suit you, and at a price that goes easy on your pocketbook. I also list a complete line of single and double harness at direct-to-you prices. Write today.

D. T. BOHON 3256 Main St. Harrodsburg, Ky.

THIS MOTORCYCLE GIVEN AWAY As a Prize FREE

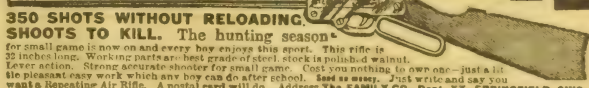


That's just what we mean—given free as a prize. Our plan is easy and simple. Here's a chance to get a motorcycle with the least possible effort. Send us your name for our free plan. You'll scarcely believe us when we tell you how easy it is to get this machine. An easy plan. No fake puzzles to work. If you will give us just a little of your spare time, you can have this machine; but be sure and

Send Your Name Today

This is a genuine twin-cylinder—two-speed, latest model "Indian" machine, the latest and last word in motorcycle making. The machine is a brand new 1915 model and will be shipped direct from the factory so as to insure that you get only the latest and best. Don't fail to send us your name. Our plan is to advertise our business, and if you will help us you can have the machine. It will not require a solid week of your time to get this machine worth $250.00. Isn't that worth a try? Where else can you earn a $250.00 motorcycle in a week? Be quick—that's the main thing—and address D. BRYDON, MANAGER, 221 S. WITTENBERG AVE., SPRINGFIELD, OHIO

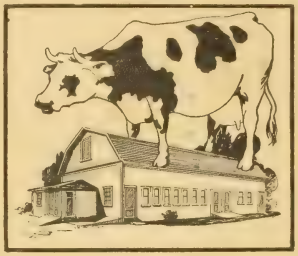
THIS REPEATING AIR RIFLE FREE



350 SHOTS WITHOUT RELOADING. SHOOTS TO KILL. The hunting season for small game is now on and every boy enjoys this sport. This rifle is 32 inches long. Working parts are best grade of steel, stock is polished walnut. Lever action. Strong accurate shooter for small game. Cost you nothing to own one—just a little pleasant easy work which any boy can do after school. Send us name. Just write and say you want a Repeating Air Rifle. A postal card will do. Address The FAMILY CO., Dept. XX, SPRINGFIELD, OHIO.

Cypress Barn Book

Containing Free Plans for 4 Barns



Framing details are so full and complete that any home carpenter can build from them. Then there are printed specifications covering all materials and labor—all you need for a FIRST CLASS JOB. Yours for asking.

It is Vol. 4, Cypress Pocket Library

This FREE Book Contains:

(1) Plans for 28-cow stable, with milk room, feed and manure carriers, modern ventilating system, economical arrangement, and two silos attached—the famous "Even Temperature" sort. Full plans and specifications for building.

(2) Trussed, Self-Supporting Roof Barn of medium size, with silo built in the bay. Floor plans and framing details—four drawings, elevations, etc.

(3) A 40-Acre-Farm Barn—convenient, practical and adapted to small farm, or as an auxiliary barn on large farm. Four drawings, elevation and floor plans.

(4) 8-Horse Stable—four drawings that show exactly how to build. Material and work specifications.

GET THE BOOK

These Barn Plans, details and specifications are the product of a leading firm of farm architects, and they know the business. You will agree to this when you see the Book. Better write tonight, sending the coupon. No money or Stamps.

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SOMETHING NEW-DIFFERENT

Readers listen sharp, don't miss! Investigate—the best thing ever happened. Astonishing, yet true. **INGENIOUS OHIOAN INVENTS A NEW DEVICE THAT CLEANS FAMILY WASHING IN 30 TO 50 MINUTES, WHILE YOU REST.**

NO RUBBING, NO CHEMICALS, NO MOTOR. NO SUCH DEVICE SOLD IN STORES—DIFFERENT FROM ANYTHING YOU HAVE SEEN. Nothing else like it—great seller—enormous demand. Customers delighted. R. O. Cowan, N. Y., placed 13 in 6 hours, (profit $39.00). Mrs. J. Brown, Pa., sold 10 in 3 days. (profit $30.00). You can do the same.

Miracles don't happen now, but listen—wash day troubles wiped out. Goodbye to wash boards, washing machines, troubles, etc. Their day is passed. Easy Way of cleaning clothes is here to bless our dear women. Invention that killed wash day called "Easy Way." Has awful appetite for dirt, goes after all the dirt in all clothes, at same time. Small, but mighty—silent, but powerful. **SEE HOW SIMPLE, EASY, DIFFERENT.** Operated on stove—water inside, then soap, then clothes—move knob occasionally. Dirt lets go as hot water, suds, scalding steam and vapor begin movements. 8 to 10 minutes—clothes clean—rinse, dry, that's all! Next batch same operation—same water—30 to 50 minutes family washing clean. You just wait between batches—child can do it. Laundries clean clothes without rubbing—the "Easy Way" does the same at your home. No wood, all metal, sanitary, should last lifetime, light, easily handled. Cleans laces, white goods, bed clothes, woolens, colored clothes, etc., without injury—no rubbing—no chemicals—Women's God-send. Saves drudgery, clothes, labor, fuel, health and looks. No experiment—going on daily—you can do it. Customers everywhere delighted and praise it.

LAURETTA MITCHELL, O., writes: "Done big washing with 'Easy Way' in 45 minutes. Sold 3 already." **J. W. MEYERS, Ga.,** orders 12 more, says: "'Easy Way' greatest invention for womanhood, forever abolishing miserable wash day." **F. E. POST, Pa.,** "Done two weeks' washing in 45 minutes. Clothes cleaned without rubbing." **J. H. BARRETT, of Ark.,** after ordering 38, says: "Grandest invention ever heard of."

Price, only $6.00 complete—ready to use—sent anywhere—not sold in stores. **SEND NO MONEY—simply your name and address. Write Today.**

SAMPLE TO AGENTS—**SALESMEN—MEN—WOMEN**—all or spare time—at home or traveling—showing—taking orders—appointing agents—"**Easy Way**" new. Wonderful seller—agent reaping harvest of dollars. When operated, people stop, look. 12 see, 10 buy. C. O. Garrett, of Ohio, showed 7 families, sold 6, (profit $18.00). A. B. Verett of Ia., sold 8 one day, (profit $24.00). Mrs. Garrish ordered sample—then dozen—then 100, (profit over $300). **Write for FREE Sample Proposition, 1945 Offer, etc. Costs nothing to investigate. Write Today. Circulars, Testimonials, FREE.**

HARRISON MANUFACTURING CO. 123 Harrison Bldg., Cincinnati, O.

HOW SEEDS TRAVEL

Some seeds make journeys with wings, and others travel from place to place by attaching themselves to the clothes of men or the hair of animals; still others make their journey in the stomachs of birds. These are facts that will interest the young people who are taking an interest in agriculture and are working in a garden at home or at school. According to the United States Department of Agriculture's specialist, the seed as the starting point in the life cycle of a plant, may well be studied first by young gardeners.

The seeds of the maple tree are particularly interesting. They are provided with wings, and when they become detached from the parent tree a gentle breeze will carry them a considerable distance from the branch to which they were attached. There are many forms and modifications of the winged seed, as the linden, the hornbeam, the elm, and the pine. These are all common trees from which seeds for illustrative purposes can be secured.

Some seeds are also provided with parachutes or umbrellas, not for protection from rain and storm, but for purposes of locomotion. The seeds of the thistle, the milkweed, and the dandelion—in fact, the seeds of all plants which have a cottony growth—are provided for these aerial journeys.

Besides these, some seeds are provided with hooked appendages by which they can attach themselves to the clothing of men or the hair of animals, so that they become transported from place to place. Other seeds have hard seed coats, or shells, which are covered in many cases by edible fruit. The fruits are eaten by birds, but the seeds are not digested, and in this way become distributed from place to place. The groves of cedars which are characteristic of the landscape in many sections of the country, it will be noted, are chiefly placed along the lines of fences or fence rows. The fruit of the cedar is an edible one, but the seed is not digestible, and in this way the existence of these hedge rows of cedars is explained. Cherries, grapes, and other fruits are to a considerable extent disseminated in like manner.

The hard nuts of our nut-bearing trees are not used as food by birds or large animals, but are usually sought by squirrels and small rodents, which are in the habit of gathering and burying them in various places or storing them in large quantities for winter use. The result is that a considerable percentage of those which are buried in this manner are never rediscovered by those hiding them, and in time nature causes the hard shell to crack open, and the warmth and moisture of the soil brings the germ contained in the kernel into life and a tree springs into existence. It will be noted that the nuts which were buried by the squirrels did not germinate immediately after being buried, but waited until the warm weather of the spring came before they put forth their tender shoots. This is not because they willed it, but because the hard outer walls of the shell would not admit the air and water to the germ, so as to stimulate its growth.

It was necessary that the shell be frozen and broken by the action of the

frosts and the weather before moisture could gain an entrance to cause the swelling of the germ. This peculiarity when taken advantage of commercially, is called stratification. Seeds with hard shells, such as cherries, peaches, plums, and the like, have to be stratified—that is, they must be planted in the fall where the plants are to grow, or they must be packed away in boxes of sand in a position where they will freeze and remain frozen during the winter, in order that they may germinate the following spring. If seeds of this character are stored and kept dry during the winter they will not germinate if planted in the spring. Seeds with thin seed coats, however, like peas, beans, etc., if treated in like manner, will be destroyed by the action of the cold, and no plants will result from planting them in the autumn. Such seeds must, from the nature of the case, be retained in a dry and comparatively warm place during the winter season, in order that their vitality may not be destroyed.

THE BURBANK POTATO

While a young man in Massachusetts, Luther Burbank selected several promising strains of potatoes from a commonly raised variety. One of them he sold to Messrs. J. J. H. Gregory & Son, of Marblehead, Mass., for $125.00. From this strain has come the famous Burbank potato of the U. S. It is one of the standard varieties of the eastern states. It is the standard of excellence on the Pacific coast, and the leading variety raised in California. Its tubers are large and uniform. Its "seed" does not "run out."

This is but one example of a method that has no doubt been the most beneficial in the practical breeding of improved plants. Strange as it may seem, most of our agricultural varieties are not pure. Every corn belt farmer recognizes several strains of Reid's Yellow Dent, Silver Mine, or Leaming corn. Two seedsmen may be selling strains of Reid's Yellow Dent that are very different in shape of ear, time of maturity, and height of stalk. This phonomenon is accounted for in part by the theory that many varieties are the combinations of several elementary species. These elementary species differ from each other in one or more ways, as average color of leaf, average height of plant, average time of maturity, resistance to various plant diseases, etc. Elementary species are supposed to be constant and if isolated will remain true to type. Though this theory may be replaced by a better one, the many practical results of its application to all kinds of crops will remain.—Breeze Boyack, Col. Ag. Ex. Sta.

Good breeding is like intense farming: The same amount may be produced by feeding a few good animals that could be made by feeding a larger number of inferior ones; the same as it may be produced by working a few acres in good shape, rather than skimming over a good large acreage.

Firmness and docility of temper greatly enhance the value of a cow. One that is quiet and contented, feeds at her ease, does not break over fences, or injure other cattle, is a more valuable animal than one of a turbulent nature.

Broadway Central Hotel
Cor. Third Street
IN THE HEART OF NEW YORK
Special attention given to Ladies unescorted
SPECIAL RATES FOR SUMMER
OUR TABLE is the foundation of our enormous business.
American Plan, - $2.50 upwards
European Plan, - $1.00 upwards
Send for Large Colored Map and Guide of New York, FREE
TILLY HAYNES, Proprietor
DANIEL C. WEBB, Mgr.,
Formerly of Charleston, S. C.
The Only New York Hotel Featuring AMERICAN PLAN
Moderate Prices
Excellent Food Good Service

A Beautiful DAN PATCH Picture Free. See Page 13.

CHAIN and PENDANT
Given FREE

This is a neat gold plated chain, 18 inches in length and the pendant is an imitation coral rose set with one first quality brilliant that sparkles like a real diamond. This is an article of jewelry of which you may well feel proud. To introduce our big home magazine we will give one of these handsome neck chains and pendants to any person sending 12 cents to pay for a subscription to The Family Magazine. The FAMILY, Dept. C59 SPRINGFIELD, OHIO.

This Wonderful Machine Has Actually Revolutionized Butter Making on the Farm

Saves Half the Work—Makes More and Better Butter

You can take the same amount of cream you are now churning and, with a Fayway Butter Separator, get more and better butter than is possible with any churn under the most favorable conditions—and in less than half the time. No muss—no drudgery—the Fayway is the easiest running butter maker ever invented. These are facts—not extravagant claims. Thousands of farmers are getting these results with the Fayway right along. At our own risk we will loan you a Fayway for 30 days or longer so you can prove for yourself that you can easily get the same results.

Easy to Keep Clean and Sweet

The Fayway TRADE MARK **BUTTER SEPARATOR**

Will Last A Life-Time

Capacity For All Farm Purposes

All churns beat or whip the butter fat out of cream. This breaks the fat globules and makes greasy, salvy butter. The Fayway has a center hollow shaft through which a strong current of air is forced, blowing all the butter fat upward where it quickly forms into golden, pea-shaped granules, ready to be worked. Absolutely free from impurities, the butter is washed and worked in half the time "churned butter" requires. Firm and waxy in texture, of superior grain and beautiful golden color—you'll say it's the finest you ever saw or tasted!

Read What John Andrews, Editor of Kimball's Dairy Farmer, Has To Say About The Fayway—Also What A Few Owners Say:

What John Andrews says: The Fayway is a new kind of a butter separator that came out with what looked like extravagant claims. We did not care to advertise it to our readers until these claims were established to our satisfaction. We sent a man to Cincinnati and unbeknown to the manufacturers, he spent a half day in a dairy where the Fayway Butter Separator was being used. Our man saw it do all and more than was claimed for it, and came back enthusiastic.

Makes Best Butter in Town When I first tried to make butter, I worked for hours, and then had inferior butter. I tried many churns, and heeded all advice, but after a year I was still making poor butter and wasting a lot of cream. I saw the Fayway advertised, and I wrote for one. I now have the reputation of making the best dairy butter in town, and the credit is all due to the Fayway.

The Fayway Co. has absolutely lived up to their agreement and by following their advice, I have recovered at least 20 per cent more butter from my cream and market it at top price. MRS. J. W. McCOY, Eden, N. Y.

Butter in Exactly 5 Minutes After hearing our cream to60 we proceeded to churn; it took exactly five minutes to make the butter. My wife is delighted with the Fayway. C. U. STRONG, Mgr., NiMex.

Demand Larger than I Can Supply The Fayway Butter Separator certainly does make fine butter. Already my demand for Fayway Butter is larger than I can supply. MRS. F. KOHLER, Hamilton, Ohio.

This Fayway Butter Brings 7½¢ More Per Pound We have raised the price on our butter from 30 to 37 1-2c per lb., or butter still our customers have raised it for us since we are using your machine. J. H. ROELIF, News Ferry, Va.

30 Days Free Trial

If you were convinced of the truth of everything we've told you about the Fayway, you'd buy one in a minute. But it sounds too good to be true, so perhaps you are skeptical. Why not, then, test our claims by trying a Fayway for 30 days free. You'll be under no obligations to keep or pay for the machine if you are not convinced or if for any reason you don't wish to keep it.

$1000 Guarantee We have deposited $1000 with a Cincinnati Bank as a guarantee that we will faithfully perform our every promise. We furnish every purchaser of a Fayway with Cartons, Parchment Wrapping Paper and a 1-lb. Butter Mold—all free. With this outfit you'll have a complete creamery right on your farm—a creamery that the women folks can tend to because the little work involved is so easy and pleasant. Put up in these sanitary cartons, your Fayway butter can hold its own with the best creamery butter in the land, and command the same fancy prices. Many Fayway owners tell us they actually get

5c to 10c More Per Pound than they were ever able to get for their best churned butter. The extra profits from the same amount of cream you are now churning will quickly pay for a Fayway.

Buttermaking Course Free Shows you how to build up a big, profitable butter business, and tells you everything you should know about buttermaking. You need this—a creamery.

Mail Coupon NOW! For free facts and proof! Send now—you're losing money every day you delay. Send no money—everything free.

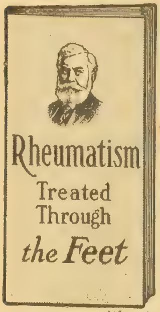
THE FAYWAY CO.,
115 John Street,
Cincinnati, Ohio.

FREE CARTONS
Parchment Paper and Butter Mold
CARTON made of highest quality heavy manila board paraffined both sides.
PARCHMENT WRAPPING PAPER. Your name and address printed on each sheet—a big advertisement for your butter.
1 lb. BUTTER MOLD. Made of hardwood maple.
All FREE to every purchaser of a Fayway.

The Fayway Co.,
115 John St., Cincinnati, O.
Send facts about 30 Days Free Trial Offer, and Free Course in Buttermaking; also proof and legal guarantee.

Name.....
Town.....
R. F. D.....
State.....

RHEUMATISM



BOOK FREE!

Illustrated with Color Plates

Write for it TODAY

Tells what every sufferer should know about the nature, origin and causes of this cruel affliction, and tells how to get rid of it without medicine by a simple appliance worn without inconvenience, and for a short time only, on the soles of the feet. My Drafts have proven successful in so large a percentage of cases that they have already won their way almost all over the civilized world. Men and women are writing me that my Drafts have cured them after 30 and 40 years of pain, even after the most expensive treatments and baths had failed. I don't hesitate to take every risk of failure. I will gladly send you my regular **Dollar pair** right along with my Free Book; **without a cent in advance.** Then after trying them, if you are fully satisfied with the benefit received, you can send me the Dollar. If not, keep your money. **You decide, and I take your word.** You can see that I couldn't possibly make such an offer year after year if I were not positive that my Drafts are better and surer than anything else you can get for any kind of Rheumatism, no matter where located or how severe. Send today for **my Free Book and $1 Drafts. Send no Money—Just the Coupon.**

FREE $1 COUPON

Frederick Dyer, Dept. 461, Jackson, Mich.

Dear Sir: Please send me your **Dollar Drafts To Try Free,** and your **Free Illustrated Book,** as described above.

Name...

Address...

....

Above goods sent prepaid by return post.

OWN A BUSINESS

We Will Help You

"I made $88.16 first three days, writes Mr. Reed, of Ohio. Mrs. Woodward earns **$170** a month. Mr. M. L. Smith turned out $301 in two weeks. Rev. Crawford made $7,00 first day. See what they have done. judge what you can do.

Let Us Start You

in Gold, Silver, Nickel and metal plating. Prof. Gray's new electro machine plates on watches, jewelry, tableware, and metal goods. Prof. Gray's New Royal Immerson Process, latest method. Goods come out instantly with fine brilliant, beautiful thick plate, guaranteed 3 to 10 yrs. No polishing or grinding. Every family, hotel and restaurant want goods plated.

PLATERS HAVE ALL THEY CAN DO.

People bring it. You can hire boys to do the plating as we do. Men and women gather work for small per cent. Work is fine—no way to do it better. No experience required, we teach you. Recipes, Formulas, Trade Secrets Free. Outfits ready for work when received. Materials cost about 10 cents to do $1.00 worth of plating.

Our new plan, testimonials, circulars and **Sample Free.** Don't wait. Send us your address anyway.

Gray & Co. Plating Works, 783 Gray Bldg, Cincinnati. Ohio

$10 SAMPLE WATCH FREE

to anyone who will wear and sell our watches among their friends. **$18 to $30 a Week** can be earned by agents who devote their entire time to the sales of these watches. **Write Now** for our **Free Sample Watch and terms. to OGDEN JEWELRY CO., Dept. 15 CHICAGO**

IMMENSE QUANTITY OF WHEAT TIED UP

A grain expert who has been watching the grain markets and the world's grain fields for a number of years, says:

"There is at the present time about two billion bushels of wheat, the production of the countries at war, tied up. This is about one-half the world's total production of wheat, which is four billion bushels. One writer argues that, granting that the warring nations produce a one-half crop in the coming year, a deficit of one billion bushels will still be shown. The three countries upon which the filling of this deficit of one billion bushels will rest are the United States, Canada, and Argentina. The combined output of these three countries is only 1,249,000,000; their exportable surplus would, of course, be much less, so it can easily be seen that the question is not one to be easily solved, and it behooves all the above countries to increase their respective productions as much as they possibly can, for when the war is over and trade begins to re-establish itself, and the nations undergo a process of rehabilitation, the demand for all breadstuffs will be enormous.

"During the three years following the declaration of peace the farmers of all neutral wheat-producing countries will have ample opportunity to market their wheat at good prices, and it may safely be assumed that the demand will be heavy. Canada has an unusual opportunity in that she has the natural environment for wheat production; she is under the protection of the British flag, and she will not be molested upon the water to any great extent; she can increase her acreage and greatly enhance her production.

STORAGE BATTERIES

The starting battery in an automobile is a source of trouble that many people do not consider.

It is sometimes said that a little distilled water added to the battery every two or three weeks is all that is necessary to keep it in good condition. This statement is very misleading. Any electrician will tell you that the storage battery is a very particular part of the automobile equipment, and needs a great deal of attention.

Water alone will not keep the battery in good condition. The acid or electrolyte should be kept to a specific gravity test of 1250 degrees.

On long runs, where the stops are few, it is possible to charge the battery as fast as it is discharged, but as a rule you are very apt to use the current faster than the battery is discharged. If this is continued any great length of time the battery will become too weak, starting will become quite impossible, and the battery will be damaged, making repairs a necessity. Battery repairs are expensive.

If the electrolyte is not kept to test mentioned, the battery will freeze in moderately cold weather, and the jar will be bursted. It is claimed that with a full charge, and the electrolyte having a specific gravity test of 1250 degrees, it is quite impossible to freeze the battery. But on a low charge and gravity test the electrolyte becomes distilled water, and is very easily frozen.—R. A. Bradley, Col. Ag. Coll.

FINE OLD VIOLINS

On Easy Payments 30 Days Free Trial

allowed, no matter where you live. If not more than pleased with our values return violin AT OUR EXPENSE—and no harm done. Ability to play the violin brings social and financial success. Get a violin with a rich, mellow tone and it will create in you a desire to master it.

Free! Magnificent Album-Catalog

containing portraits of the world's greatest violinists since Paganini's time, a half-tone of "Stradivarius in His Workshop," and the romantic story of The King of Musical Instruments. A postal brings all to you FREE — no obligations.

CREMONA VIOLIN SHOP
Dept. C548 Chicago

AGENTS WANTED (SPARE TIME)

Blades so high quality as to cut nails or hairs

EARN $75. to $250 a month.

Knives and Razors made of Car-Van (Old Damascus) steel Scientifically Tempered, Photographic Handles. Entirely new. Sell on sight.

Write for Special Agency Proposition.

The Canton Cutlery Co.
Dept. 45 Canton, Ohio

Send us $1.50 for Knife Style D11, 3 3-8 inches long, 2 blades with your own name and address, and any photo or emblem in the handles.

Official Denial

NO WAR TAX on HOMESTEAD LAND in CANADA

The report that a war tax is to be placed on Homestead lands in Western Canada having been given considerable circulation in the States, this is to advise all inquirers that no such tax has been placed, and there is no intention to place a war tax of any nature on such lands.

(Signed) **W. D. SCOTT,**
Ottawa, Can., Mar. 15, 1915 Supt. of Immigration

Bargains in Band Instruments

Used Cornets $7; Used Trombones $8.

We have hundreds of bargains in band instruments; Cornets $7.00, and other instruments at equally low prices. Send for complete list of rebuilt and fumigated band instruments. Tell us what instrument you are interested in.

LYON & HEALY
35-44 Adams St., Chicago

HOWARD BICYCLE

Something **new in a bicycle,** you cannot **afford** to buy until **you get our** 1915 catalog. **Make some** extra money, be a rider agent; send for our free proposition. Write to-day.

HOWARD CYCLE CO.
Dept. K. Trenton, N. J.

Be A Travelling Salesman

Experience unnecessary. Earn Big Pay while you learn. Write for big list of positions open, and testimonials from hundreds of our students who earn $100 to $500 a month. Address our nearest office. Dept. 589

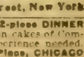
NATIONAL SALESMEN'S TRAINING ASSOCIATION
Chicago, New York, San Francisco

Make $15.00 to $35.00 Per Day

With Our Latest Invention, the Wonderful Ever-Ready Camera. Makes 9 styles single or group pictures direct on postcard or tintypes without film or negative, finished for delivery in less than one minute. **No Experience Necessary. Get into a good, clean, respectable business of your own and become independent. Big Money** at fairs, carnivals, parks, picnics, anywhere. Photos cost you from 1 to 2 1-2 cts.; sell at 10, 15 and 25c each. **Write Today for Free Proposition and catalog.**

THE NEW YORK FERROTYPE CO.
Dept. A60, No. 168 Delancey St., New York, N. Y.
Dept. A60, No. 1126 S. Halstead St., Chicago, Ill

MEN WANTED



We positively teach you at home by mail to earn $25 to $50 weekly as Chauffeur or Repairman. Students assisted to positions. Best system, lowest price. MODELS FURNISHED. Write for Free Book.

Practical Auto School, 68K Beaver Street, New York

FREE TO ANY WOMAN. Beautiful 42-piece DINNER SET for distributing only 3 dozen cakes of Complexion Soap FREE. No money or experience needed.

V. TYRRELL WARD, 210 Institute Place, CHICAGO

Building a Business Without Capital

By E. .T Durham

Five years ago in my little town out in Oregon I was sort of a handy man at one of the saw mills pulling down less than $2.00 per day and not much chance of ever doing any better. Today I am the best fixed; best-dressed man in town, own one of the finest automobiles in this section and can get a thousand or two at the First National any time I want to sign my name.

The secret of my success can be told you in one word—Soap. In fact, I'm known as the soap man in our town even to this day. But to get down to essentials, I had no father or mother, but a mighty considerate uncle was sort of a guardian and confidante. One day I went to him with my first big idea.

"Uncle," I said, "I've decided that fellows who work for wages, or salaries either, for that matter, never get anywhere. The fellows who make real money and get the most out of life don't lie down on the board like a lot of checkers and let the boss move 'em around where he pleases—they get right into the game on their own account."

Uncle agreed, said he'd like to see me get into some kind of business, promised that if I'd save till I got $500 he'd stake me for as much more and help me start a store.

"No chance," I replied, "I can't wait to save a cent—some way or other I'm going to get into business for myself, and I'm going to do it before the summer is over."

Uncle laughed at my nerve, but I want to tell you nerve is the one thing most $2 a day men need. Because I had it I did get into business with less than $10 capital before another month was over, and it was a business that has made for me much more than any store I could have started with $1,000.

Somebody told me about the big money in the agency business. I didn't fancy it at first. Thought it might be hard to approach people—never was any good at that; but I decided that wasn't going to keep me out of the capitalist class. So I began answering advertisements and studying over the propositions sent me. I think I must have received more than twenty sets of circulars in the next two weeks. All of them were attractive on first sight, but I wasn't going to be taken in on big statements, and analyzed the propositions carefully for myself.

Anyway, I figured it one of these stuck out head and shoulders above the others. It was the proposition of the E. M. Davis Soap Company, 797 Davis Building, Chicago, just like the one that appears below.

I decided in its favor for three reasons. First, because they put out combinations of toilet preparations to sell from 50c to $2 that would cost the consumer four times that much in the regular way—the regular price being plainly printed on each article so the consumer could see his saving. Second, they didn't want all the profit themselves, but left a commission for me that made it worth while. Third, the commodities were staple and had possibilities for steady repeat business that none of the others had.

I felt quite sure of ultimate success, yet I decided to play safe, and so I kept my regular job at the sawmill and sent for a sample outfit, with the idea of taking orders evenings and on days when the mill didn't run.

In spite of a whole lot of bashfulness I took orders for $8 worth of products the first evening. On this evening's work my profit was over three dollars. The next evening I didn't do quite so well, but the third evening more than made up for it with a clear profit of over $7. That ended the sawmill for me. I quit the next morning; and I've never had any cause to be sorry.

The first week after I left the mill I cleaned up $35, and although I've frequently made almost double that amount in a single week since, I don't think any week's work gratified me quite so much as the first one.

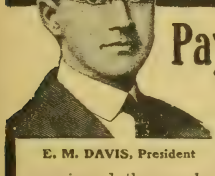
Now, just stop and get the significance of this. I was an ordinary sawmill hand—never sold a dollar's worth of goods before in my life—hesitated at every door I knocked and hunted around for an excuse not to call. Yet in spite of these drawbacks I was making really big money right at the outset more money, I knew, than some salesmen were making who were traveling on regular routes for big houses.

After the first month I found myself settled in an established business, without the worry of store rent or other expenses. Already some people's stocks of soaps and toilet articles were running low and they were hunting me up to replenish them.

Gradually I learned to sell goods more. That was easy, because Davis supplied us selling talks that told us just how to show the goods and just what to say to land the sale. From that time on it was just simply a case of hustle to keep up with the demand. Demand on part of the customers and on the part of the people who wanted sub-agencies. At this point I could have laid back on the oars and let my sub-agents keep me going. That would have been easy, but I wasn't built that way, so I kept hammering away every day.

Now there is a reason why I have told you this story. It is this: You are probably one of the great army that is struggling away on a salary, trying to get somewhere and living up to every cent you make, just as I was five years ago. A fortune can't be made that way. But you won't admit that you haven't got as much ability and as much salesmanship about you as a very ordinary sawmill roustabout, will you? You have, and you can do just what he did. The same company is just as anxious to get agents today as it was when I started. You can't get any territory in my section. I've got that cornered, but there are plenty of towns just as good; perhaps your town is open. Besides, the company are even more liberal today than they were in those days. Why don't you muster up your nerve, just as I did, and write them to show you how you can get started into this paying business?

I Will Give You A Job



E. M. DAVIS, President

Paying $30 to $50 a Week

Representing my line of household specialties. I manufacture a line of household necessities—goods that are used in the home more times during one day than any other commodity you might mention. My goods are in demand in every home in the United States. **If you are inexperienced, here is your chance to make big money.** If you are experienced, then you know the difference between selling a luxury and a necessity.

NO EXPERIENCE NECESSARY

You need no experience. No matter who you are—where you live—or what bad luck you've had with other lines, **get this clearly**. I manufacture a swell line of high class toilet necessities like Soaps, Perfumes, Creams, etc., by my own special process that smashes all records for low prices. Then, too, I pack these things in saucy little boxes that take the ladies. I have started thousands of men and women in this business—have shown them my sure way to make big money. Everybody wants to know how to make money. **Now let me show you.** I have facts to convince you.

MY GOODS SELL THEMSELVES

My goods are so good, so reliable and give such complete satisfaction that repeat orders come easy. Once my goods are tried they are always used. I have spent nearly twenty years in perfecting my goods, until it is conceded that my products are better than 95 per cent of those manufactured. Another thing, the man who is selling a necessary article such as is used every day is the man who is making money. My products are a necessity and needed in every home. If you will just show my samples and use the selling talks I furnish you, you will sell almost everyone you call on.

HURRY! GET TERRITORY!

I can only use a certain number of agents. I guarantee all my agents certain territory and as soon as I have disposed of the territory no one can get it for love or money. When you work for me you do not have to be scared of another agent stepping on your toes. Only one agent to each portion of the territory. You must get busy and send in the coupon for full particulars if you wish to be a member of the Davis family of money-makers. Fill in the coupon and mail it NOW.

E. M. DAVIS SOAP COMPANY, 797 Davis Block, Chicago

Read What Others Say:

ALWAYS DOING BIG BUSINESS

This is Thursday a. m. I have sold $120.00 worth of goods so far this week, and will run up to $200.00 by Saturday. G. O. Ernest.

CAN'T STOP THE WOMEN

I received your booklet on Salesmanship, also Shampoo Combination sample and in less than eight hours had taken my first twenty-five orders, a profit for myself of $7.50, and, of course, this was new work for me. Mrs. Henry W. Hull.

YOUNG AND OLD MAKE GOOD

I will soon be 69 years old. Have a grandson 22 years old, so don't expect much from us old people, but all the same I got fifty orders in about three days of not over eight hours each. T. T. Spence.

69 SALES, TWO DAYS, PROFIT OVER $35

I received samples O. K. and worked Monday and Tuesday. Got sixty-nine orders; they are to be delivered the 26th. W. F. Gibson.

SIX HOURS: PROFIT $9.00

Went out this morning and sold fifteen in six hours (lucky 'Leven). Harry Gasmann.

OPPORTUNITY COUPON

E. M. Davis, President,
797 Davis Building, Chicago, Ill.

Gentlemen:

Please send to me without any further obligation on my part, particulars on how I can start working on your money-making proposition.

Name .....

Address .....

City ..... State .....

This $985 Detroiter Will Be Given Away!

YES! We are going to give away this fine big 1915 Model Detroiter Automobile Free. It is fully equipped with top, electric self starter and lights, speedometer, horn, etc., and will be sent to some industrious person **Free of Charge.** All you will have to do to earn this fine automobile is to take subscriptions to our popular magazine The Household. Each subscription will count so many points and if you have the most points June 26th, the automobile is yours free of cost. Isn't that an easy way to get an auto?

We Have Given Away Over Thirty Automobiles

During the past few years we have given away over thirty automobiles, numbers of motorcycles and many other prizes in our popular prize offering. We will send you the names and addresses of these winners and you can write them if you wish. One of our recent contests was won by a little boy at Nolan, Tex., named R. F. Oakley. He is only twelve years old and earned a Studebaker Automobile. You can do as well. Write your name and address on the coupon below and mail it to us today. It won't cost you a cent and we will tell you all about our free offer.

THE HOUSEHOLD
804 Jackson St. Topeka, Kansas

ENTRY COUPON

The Household, 804 Jackson, Topeka, Kan.

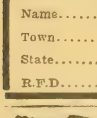
Gentlemen—Please send me full particulars of your free automobile offer. This does not obligate me in any way.

Name.....

Town.....

State.....

R.F.D..... Bx.....



BASEBALL OUTFIT FREE

combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector or complete suit, including shirt, pants, cap and belt, good quality, extra well sewed. Send name and we will send you 8 sets of our fine pictures to dispose of on special offer at 25 cents each. Send us the $2 you collect and for your trouble we will send you outfit as described. *Write today* for pictures. Get in the game at once.

M. O. SEITZ, 4M43 Chicago

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

BOB TEACHES "FATTY" HOW TO GROW ALFALFA

"Bob," asked William Shattuck. "I haven't seen our new alfalfa field lately. How is it comin' on?"

"Fine, Dad. It's up several inches, and the germs we put on the seed have crawled into the roots and we're goin' to have a bully stand."

"What makes you think so?" asked his father.

"Well, in the first place, the plants have come up even all over the five-acre field and they have rich dark green color, which shows they are inoculated. Then to make sure I took a spade, as you told me, and dug up a lot of plants and soaked 'em in a pail of water to get all the dirt off the roots. When I pulled 'em out I could see all the little roots, no bigger than threads, and, Gee! you ought to see the noodles on 'em!"

"Nodules, you mean," said William. "Your report sounds good, Bob, and your mother and me are glad to see you take so whole-hearted an interest in everything on the place. By the time I turn this farm over to you I aim to make it one of the best in the country."

"It's a cracker-jack right now, Dad. And when our alfalfa is up and we get to feedin' it to our cattle and hogs, we'll be the talk of this neighborhood. Why, do you know, Fatty McCormick's father says that you are a 'nut' to try to grow alfalfa. He says—so Fatty tells me—that it won't grow in any soil 'round here, for he tried it and failed."

"I see," rejoined his father. "And have you any suspicion why McCormick failed to raise alfalfa?"

"Sure, I have. I pumped Fatty and found out that he never put manure nor fertilizer on his land. And when he sowed alfalfa his seed-bed was full of chunks as big and hard as Fatty's head. And he didn't put any lime on his soil after plowing it, nor any germs on his seed when he planted 'em. Fat chance he had of gettin' a fine catch of alfalfa like ours!"

"Well, Bob, we mustn't brag about our success nor crow over a neighbor's misfortune. Poor old Mac is a good example of the muscle farmer I was talking about. He's a whale of a worker. He's out in the field long before you and me are out of bed. The trouble is he never reads a farm paper or farm bulletin, but believes in farming as his father did forty years ago. He don't run his farm, it runs him."

"Oh, I didn't brag much to Fatty, Dad. But the way I talked to him was a sin when he said we couldn't raise alfalfa."

"Let me see," mused Mr. Shattuck. "Fatty is about fifteen now!"

"Yeppy," answered Bob. "Almost three years older than I be."

"And old Mac is old and wearin' out faster than his farm is. In a few years Fatty will have to run the place. Now, suppose you take a day off this week and invite him over here for a good time. But have it in mind that you are to show him why we are makin' this place better and better every year instead of poorer; try, offhand, to show him the few things we have learned, not from our forefathers, but from readin' and studyin'—the Lord knows we have got lots to learn yet."

"I'll do it, Dad. Fatty will want to go fishin' the first thing. But when we come back I'll take him round and show him how we feed our stock and how we save the manure—"

"And be sure to tell him why. Don't forget that why is just as important as how."

"I'll remember," answered Bob. "And I'll steer him over to see our alfalfa field and tell him why we got a catch."

When Saturday morning came around a chubby, red-faced youngster was seen throwing pebbles up at Bobbie Shattuck's window. It was Bob's invited guest, young McCormick.

"Hey, Bob!" cried Fatty, "it's after 5 o'clock. Yuh goin' to sleep all day? Get a move on, if you're goin' fishin'."

"Say, you, down there!" retorted Bob, poking his drowsy head out of the window. "What do you mean by throwin' stones at my window in the middle of the night?"

"Night nothin'. I call this late to go fishin'. But I can go alone if yuh don't want to come." As eh turned to carry out his threat, Bob, now thoroughly awake, cried, "Come back, yuh boob, I was only kiddin'. I'll be down in a jiffy."

But not till later, when they had reached the alfalfa field, did Bob get Fatty thoroughly interested. As the young visitor saw the vigorous growth of young plants covering the entire five-acre field like a rich, green carpet, he exclaimed:

"Gee! My Dad wouldn't believe this if he seen it! How did you do it, Bob?"

"Oh, easy enough," answered Bob very casually as he threw a stone at some crows that were sailing by like an immense fleet of miniature aeroplanes. "Of course, it ain't like a recipe out of a cook book 'cause no two soils are jest alike. But no matter what the soil is, there is three things you've got to do or you won't get a catch like this one."

"What three things do yuh mean?" asked Fatty.

"Number One is to lime yer soil if it's sour. Number Two is to get the seed-bed jest right, and Number Three is to inoculate the seed jest before you plant 'em."

"Say, smarty," said Fatty, a little suspicious that Bob was "showing off." "yuh talk as if you swallered a farm bulletin for breakfast every mornin'. My father don't believe in bein' a book farmer like your'n. He says the way to farm is to roll up yer sleeves and go to it. But mebbe he's wrong, so fire away. What has lime got to do with alfalfa?"

"I can't tell you much, but I know that alfalfa won't grow if the soil is sour, and if it's sour lime is the only thing that will make it sweet. Sour soil is bad, 'cause it kills off the bugs that help the plants to grow."

"Bugs!" cried Fatty, "what a' yuh doin', tryin' to string me?"

"Bugs is right," answered Bob very earnestly. "It's this way: When the baby alfalfa plants begin to grow they get their food by sucking it up out of the soil, the same as wheat and other plants do. But there's one kind of food in the soil it don't like and that's called nitrogen. Alfalfa wants its nitrogen taken from the air and not from the soil. It won't feed on any other kind and it most always dies when it don't get it."

"Yer talkin' Greek," said Fatty, "but

I 'spose it's all right. Did this alfalfa," pointing to the field in front of them, "feed on nitrogen taken out of the air?"

"Yes, that's why it looks so fine."

"What's all this got to do with lime?" asked Fatty.

"Lots to do with it. Listen. When the little alfalfa plant is starving for air nitrogen, along comes a bug which Dad calls a germ, and he crawls into one of the roots of the plant where he soon builds a home for himself, which is called a nodule. Then he raises a family of millions of germs just like himself and they all get busy taking nitrogen out of the air and feeding the plant with it."

While talking Bobbie had dug up a plant and carefully stripped the dirt from its tiny, hair-like roots, disclosing a number of nodules.

"See, Fatty," he continued, "every one of these little round things is a nodule and filled with thousands of germs that helped to make this plant grow by feeding it nitrogen which they took out of the air."

"Show me!" cried Fatty, reaching in his pocket for a big, long pack-knife he always carried. "I'll open one of 'em."

"No good," said Bob. "They're too small, got to have a miscroscope before you can see them. But they are there jest the same."

Then Bob told his friend how necessary these germs are and how they refuse to work if the soil is sour.

"It sounds queer, kid," said Fatty, "and I wouldn't fall for it, only you have got the 'goods' right here to show me," pointing to the alfalfa field. "It's a case of no lime and the bugs die, no bugs and the alfalfa dies—and so yuh got to lime. "I'll tell that to Dad, but I'll stand near the door, case he goes to kick me off the place fer tryin' to kid him."

"I tell you what!" said Bob. "Bring your Dad over here when we cut our first crop of this stuff. That will be better."

"Yes, and safer," added Fatty. "And how about Number Two, the seed-bed?"

"Well, this field was in corn last year, so we didn't have much trouble with weeds. This spring Dad disked it jest as soon as it was dry enough. Then he plowed it about five inches deep. He's great on plowin' a little deeper and deeper every fall and says it makes bigger and bigger crops, but spring plowin' for alfalfa should not be deeper than five inches when it follows a cultivated crop."

"Hugh, my Dad never plows mor'n three or four inches deep."

"'Tain't 'nough. After plowin' we disked again, both ways, and then harrowed enough to kill the young weeds that begun to grow. This gives us a fine, pulverized seed-bed, and then just before seedin' we rolled it, which left the soil firm and moist."

"That's easy," said young McCormick, "but it's a lot of work."

"Yes, but it pays," answered Bob, "'cause alfalfa is the best payin' crop you can grow and you get from two to four cuttings every year."

"Tell me now about Number Three, innock—nock—"

"Inoculation? That's easy. No work at all. You buy some of these germs I've told you about, put 'em on the alfalfa seed and then plant 'em from 1 to 1 1-2 inches deep. We used 20 pounds of seed to the acre."

"How do yuh get 'em on the seed?"

"The kind Dad buys comes in cans. We jest opened these cans and emptied them into a pail of water, stirred it up and poured it over the seed. We didn't soak the seed but jest moistened 'em. Then we spread 'em out and when they got dry Dad said every seed was covered with hundreds of germs. They call this inoculating the seed. But the real inoculation is when the germs have made homes in the roots like I showed you, for then the plant is inoculated and that's what counts. And now you know as much about alfalfa as I do. Do you think you could tell your Daddy what I've told you?"

"I might—in very small doses," slowly answered Fatty. "Wish I had some of these plants to show him."

"Why not?" asked Bob. "We'll soak a lot of 'em in water to get the dirt off the roots and you can take 'em home with you tonight."

"Where did your Dad get the alfalfa germs?" asked Fatty.

"He got 'em where he buys his seed. Dad says that two great German scientists, Nobbe and Hiltner, were the first to make these germs."

"Do seedsmen have to send to Germany for the germs?"

"No," answered Bob, "it's made in Milwaukee."

"Well," asked Fatty, "ain't Milwaukee a part of Germany?"

"No, you boob," laughed Bob, "it's in Wisconsin."

WINNER OF THE FEBRUARY BICYCLE CONTEST

This young man, Edward C. Andree, living near Larned, Kansas, was the winner of the bicycle which was awarded by Farm News Bicycle Club in the February contest, and here is a copy of the letter he sent telling us of his thorough satisfaction with the machine and his treatment:

Larned, Kansas,
March 8, 1915.

"Dear Sirs:

"I am enclosing my picture which you may want to print in your paper. I want to thank you again for the kind attention you gave me, and also for the numerous presents, besides the bicycle. I am very well pleased with the bicycle.

"Edward Chas. Andree."

Our next Prize Offer will be an Indian, twin-cylinder motorcycle, worth $260.00. You can get full information about this contest by writing to Motorcycle Contest, Farm News, Springfield, Ohio. This will be a prize worth trying for, and it isn't going to take a whole lot of work to get it. So just send the Motorcycle Man a postal card or a letter, telling him that you would like to have a motorcycle, and he will tell you how to get into the thick of this contest, and how to win the prizes. We are giving presents to our hustling Club Raisers right along, and we make it very easy for them to get any number of nice prizes. Be sure and write today for full information.

A good many folks besides the farmers expect a share in a good harvest; and some of them are the sort who toil not nor spin, and yet who manage to array themselves in a flagrant glory that Solomon would have been utterly ashamed of.

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A REAL GUN. Take-Down pattern, with latest improvements, walnut stock and grip. Shoots accurately 22 long or short cartridges. Handsome, durable. SEND NO MONEY only your name and address for my easy plan of securing this fine rifle Absolutely Free express prepaid. Write today. D. W. BEACH, Box 33, Spencer, Ind.

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Asters, All colors,	Prize Poppies	Sweet Alyssum,	Pinks, 10 Varieties,
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Flowers are one of Nature's sweetest gifts to man. They are "little missionaries teaching us beauty, purity and innocence." Flowers cheer the heart and make the home life pleasant; nothing for the money spent, can give as much sincere pleasure and delight. No one should fail to plant these interesting flowers. Many are rare novelties. Just sow these seeds in the flower bed and see the surprises.

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Such a bargain as this cannot last long nor can it be repeated here or elsewhere. Orders are pouring in, everybody delighted and telling their friends about our matchless offer so that our big stock of the Flower Collections will soon be gone. We urge you to order at once—to-day—while the supply lasts. Tell your friends about it. **Hurry!**

Our Big FREE Offer: **Send 10c for a NEW six months' trial subscription to our big home monthly story paper, "THE FAMILY," and we will at once send you the complete GIANT FLOWER COLLECTION free and postpaid. Do it today! "THE FAMILY" is necessary in every home and family and we want you to try it. The Flower Collection is a wonder and will delight you. But send at once—TODAY—make sure of this tremendous bargain. Address:**

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I WANT 200 SALES AGENTS AT $1200 TO $3600 A YEAR

To introduce my new **Compress and Vacuum Washing Machine** to every home in the country, I want 200 additional representatives to begin work at once in their home counties. I consider this machine the most brilliant inventive achievement of the age in household necessities. It is selling faster than anything I have ever heard of—going like wildfire.

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No waiting or guessing. The price of only $1.50 makes a sale at every house—**cash business at 200 per cent profit to you.** The biggest opportunity ever offered. I want hustlers—men and women who want to make money quick and fast. No large investment needed—**business supplies the capital.**

Every machine sold on money-back guarantee. **A child can use it.** Abolishes labor of wash day. Women discard $15 and $20 machines for it.

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MAIL YOUR APPLICATION TODAY

Don't delay. Get your county under contract. **No charge for territory.** To wait means to lose. Write me a letter or a postal card today. If you are honest and willing to work I will give you the position. **Do not let someone else get in ahead of you.** I want agents, general agents and managers. Write today—then you will have done your part. **Do it right now. Address**

W. F. WENDELL, Pres. Wendell Vacuum Washer Co., 685 Oak St., Leipsic, Ohio

Cash-Prize Winners

(Continued from Page 3)

that the horses will be in the pasture or at some remote part of the farm, and the sick one will suffer hours before relief can be obtained. With an auto it is possible to have a doctor at home in a very short time, and thus relieve the loved ones from suffering and pain. The telephone overcomes this somewhat, but it is quite often that the rural phones are not in good working order, and then many of the doctors do not have autos.

Seventh—There are often times when a farmer desires to buy a bunch of sheep, a good cow or a horse and with an automobile he can make a trip of from 50 to 75 miles in a day and be most certain of finding something. This is a great time saver over a rig, and sometimes when live stock is advertised in the paper, some other fellow will beat you to it, while with an auto you could be at the farmer's place in a short time.

Eighth—It is an education in a sense to own an auto. Especially is this true among the farmers. Before the days of the auto many farmers never got out of sight of the smoke of their chimneys, but now he can make a thirty or forty mile drive on a Sunday morning, and either go to visit some old friends, and take dinner with them, or attend some church service. There are oftentimes, country grange meetings, institutes, fairs and other agricultural meetings, that farmers would not attend if they had to hitch up a horse and drive eight, ten or twelve miles. Some people might call this pleasure riding but it is a strictly practical use, and it is a farmer's duty to attend such meetings. And then, it is an education to take such trips because of the information gained from the meetings, and also from the observations of the crops and progress along the road.

Ninth—The auto is a labor-saver and also a health-saver. When a farmer gets an auto he will not have to feed and care for an extra horse or two as he used to. Also when farmers desire to attend chautauqua, some good lecture or literary in the evening he can do his chores at the ordinary time, and after entertainment is over he can get home in good time, and get his night's rest and be ready for the next day's work.

Tenth—Farmers will get more enjoyment out of life when they can get into an auto in the evening, or on Sunday, and take a good spin around and view God's handiwork. It gives the farmer and his family many an outing and rest, and will come back to the farm with good courage to perform their work well, and thus be the gainer by making everything pay the best that it can be made to pay. It is also an inspiration to make life worth living, and to think that the old farm is the foundation of the world's commerce.

(Second Prize Contribution will be published in the next issue.)

A good housewife is one who keeps the floor so clean that it does not spoil your candy to drop it.

BUILDING UP A RUN-DOWN FARM

Down at North Salem, Ind., John Parish owns a farm of 120 acres, of which ten to fifteen are in pasture and woods and the remainder under cultivation. The soil is a very stiff clay and the land gently rolling. The soil is very poor, and many years of intensive cropping have reduced the plant-food content to a point where wheat yields but four to five bushels per acre.

Yields as low as this are far from being profitable, so Mr. Parish is adopting methods which will make his poor fields pay. He is giving special attention to seeding and seed-bed preparation, and he is certain that a good crop cannot be grown unless it is well fed. For this reason he has begun to use commercial fertilizers. It has been found that the soils of this community respond especially well to a fertilizer high in phosphoric acid. Hence Mr. Parish is using such a fertilizer on his farm. Even with a medium application of fertilizer, his wheat yielded 22 bushels per acre in 1914.

The accompanying illustration shows a fertilized and unfertilized strip on the farm of Mr. Parish. It shows what plant-food, combined with proper methods of tillage, will do in this section of Indiana. This last season he used a very light application of a complete fertilizer on his corn, applying it in the row. This is his first season for using fertilizer with corn, but from his previous experience he feels absolutely certain that it will be a success. The corn field shows that his yields on fertilized corn will be great enough to pay for the plant-food, and also leave a very handsome return on the investment.—Clyde A. Waugh.

HAVE YOU VISITED SCHOOL THIS YEAR?

Have you visited the little country school this year? If not, you'd better do so at once before the spring work begins. Have a good visit with the teacher and ask her how she is getting along and if you cannot help her with some of her problems. Accidently, while you are there, see if the room is well ventilated and if the children who sit near the stove are uncomfortably hot, while those who sit farthest from the stove suffer with the cold. Find out if the children are using an old water pail with a common drinking cup. Watch the children study and see if some do not hold the book too close to their eyes and are injuring their eyesight. Notice if the janitor service is good or if the dust from the floor and blackboards fogs the air which the children must breathe. Why not go to school with the children tomorrow and get your eyes opened, not to find fault, but to find a way to help.

There will probably be more buggies bought early this spring than have been bought for several seasons. The Elkhart Carriage & Harness Mfg. Co., of Elkhart, Indiana, has brought out a beautiful catalog showing their full line of vehicles and harness for 1915. They say their prices are lower than last season and they show many novelties for 1915. You are no doubt acquainted with this company for they have been manufacturing and selling direct to the consumer for 42 years. Send for their catalog.

CONTINUITY OF POWER

The 20th Century Limited speeding across the continent, controlled by the throttle and the brake—

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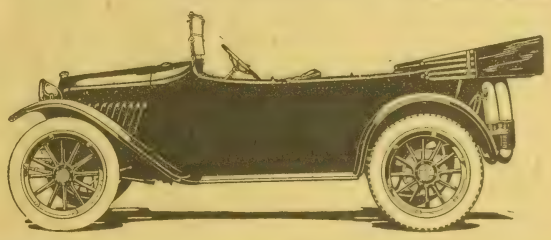

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Baseball Curver FREE!

Boys, you can simply make monkeys of the other boys with this curver. You can be as big a hero in your town as any big league pitcher. The curver which is worn on the hand enables the pitcher to give the ball a rapid whirling motion thus causing a wide curve. It is so small that the batter cannot see it and they all wonder where those AWFUL CURVES come from. You can fan them out as fast as they come to bat. A complete set of directions for throwing curves goes with each curver.

Our Offer: We are giving these baseball curvers away free as a means of introducing our great home and family magazine, The Household Magazine. Send us 10c for a three months' trial subscription and immediately upon receipt of same we will send you one of the curvers, by return mail free and postpaid. If you want one of these wonderful little curvers do not delay but send us your subscription at once to the address below. Our supply is limited. Do not put off sending in your order now. Address

THE HOUSEHOLD MAGAZINE, Dept. C2, Topeka, Kan.

PREMIUM BUDGET A fine paper covered 64-page book full of songs, stories, puzzles, magic tricks, money making secrets, jokes, etc. All sent postpaid for 10 cents. The Mason Supply House, Springfield, Ohio

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"BETSY" is a beautiful three-year-old Shetland about 42 inches high, and she's every inch a thoroughbred from her velvety nose to the tip of her silky tail. There never was a more brilliant, coal black coat than "BETSY"—set off by a dash of white in her forehead and on her four dainty feet.

We have already given away 299 ponies to boys and girls who joined our Pony Club and "BETSY" is just as fine as any of these other 299 beautiful ponies.

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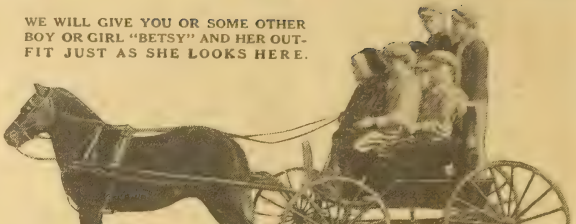


THE OUTFIT

ALONG with "BETSY" we send the swagger and most complete Pony Outfit in the world. [illegible] Shetland has [illegible] pony buggy, [illegible] and [illegible] rubber tires, [illegible] nickel trimmed harness and a hand made [illegible] and a [illegible] robe. [illegible] low such a complete outfit [illegible] buy him a better or more complete outfit [illegible] send "Betsy" [illegible] The harness [illegible] made especially for [illegible] an old cowboy at Deerlodge, Montana, and is hand-woven out of hand-carved [illegible] — red, black, yellow, green and white—with black [illegible] Indian designs, [illegible] with fluffy hair [illegible] and the reins end in a real cowboy lariat. You [illegible] be the first to have one of these bridles in your neighborhood if you send us your name and get "BETSY" and her whole outfit. We will [illegible] soon send this wonderful Pony and [illegible] as to any other boy or girl, but you must send your name and address right away so we can tell you all about our easy plan. Use the coupon below, and mail it now.

Send Us Your Name Today

If You Want to own "BETSY"

As soon as we hear from you we will tell you how to go ahead and get "Betsy" for your own. Our wonderful Pony Club is known all over the country because it gives Shetland Ponies to boys and girls and you can join this club without spending a cent of your own money and thus be eligible to get a pony free. Don't let anybody persuade you that you can't get this beautiful little pony and outfit because our plan of giving away ponies is different than others. The fact that we have already given away 299 ponies to boys and girls in 37 different states, from the state of Vermont to the state of California, [illegible] over 1,800 miles from St. Paul, is proof that we give ponies away. The postmaster or banker in your town knows that the Webb Publishing Company of St. Paul, Minnesota, established for more than 30 years, is one of the largest publishing houses in the United States and can afford to give away ponies to advertise its ponies. We never heard of one of the 299 members of our Pony Club to whom we have already given ponies until they wrote and told us they wanted a pony and that is why you must send us your name and address at once if you want us to send you "Betsy" and her dandy Outfit.

WE HAVE ALREADY GIVEN AWAY 299 PONIES

HERE ARE THE NAMES OF A FEW OF OUR 299 LUCKY PONY WINNERS

"Dainty," Gladys Ellwood, Franklin Co., **Vermont.**
"Lady," Marion Jones, Franklin Co., **Tennessee.**
"Rattler," Carl P. Forster, Bristol Co., **Mass.**
"Wallie," Victor Harris, Ashland Co., **Wisconsin.**
"Evangeline," Gladys Houx, Saline Co., **Missouri**
"Wizard," John Kenyon, Fairfax Co., **Virginia.**
"Jim," Joey Edwards, Barton Co., **Kansas.**
"Prexy," Laura Myles, Brevard Co., **Florida.**
"Flip," Imogene Schwartz, Montgomery Co., **Maryland.**
"Kip," Anna Ruth Miller, Logan Co., **Ohio.**
"Honey," Mabelle Thomas, Oswego Co., **New York.**
"Gyp," Lucille Hedlen, Union Co., **Iowa.**
"Nipper," Harold Cavanaugh, Warren Co., **New Jersey.**
"Bert," Harry Jacobson, Cass Co., **Nebraska.**
"Sweetheart," Lillas L. Howe, Nevada Co., **California**

NOTICE WE PRINT THE NAMES OF 15 OF OUR LUCKY PONY WINNERS. We would gladly print the whole 299 names if we had room for them here, but we will send them to you just as soon as we hear from you. Possibly some of these happy children live in your county or a county near you and, if so, you probably know them because our Lucky Pony Winners are the best known children in their neighborhoods. However, it doesn't make any difference where you live, [illegible] you are the lucky child to get "BETSY," she and her whole outfit will be shipped without one cent of cost to you. If you send us your name the day you read this, we will send you 1,000 votes for "BETSY" and also a big surprise that will double your chances of getting a Shetland Pony. Remember you can't get "BETSY" until you send us your name, so sit down and mail the coupon at once.

Cut Out This Coupon and Mail Today

The Farmer's Wife Pony Club,
552 Webb Bldg., St. Paul, Minn.

Please send me pictures of "BETSY" and names of the 299 ponies you have given away, and also tell me how to take care of Shetland Ponies. I have no pony and want to join the Pony Club and get "BETSY" for my own.

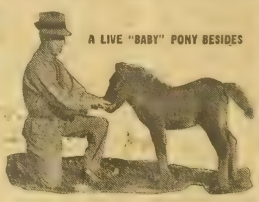
NAME.....

P. O.....

R. F. D..... State.....

This Coupon is Good for 1000 Votes for "Betsy"

A LIVE "BABY" PONY BESIDES



If you send your name and get "BETSY" some day you may also have a little "baby" pony like this one.

Every Club Member Gets a Prize

Every child who sends us his name and joins our Pony Club will receive a handsome prize of his own choosing. Besides the Pony Outfit and the Big Surprise we have for you, we will give Rings, Diamond Rings, Sewing Machines, Rifles, Cameras, Gold Watches, Flashlights and many other wonderful rewards that you never could get until now. Of course, "Betsy" and her dandy Outfit is the best prize of all and you have the same opportunity to get her as any other boy or girl if you send us your name now.

Address all Letters to

The Farmer's Wife Pony Club
552 Webb Bldg., St. Paul, Minn.

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FA'S

FARM NEWS

All that is New and Best for the Farmer

MAY Springfield, Ohio 1915

Circulation Exceeds 400,000 Copies Monthly

With the Editor

A good husband makes a good wife.

A long tongue is a long ways from pleasant.

All homes seem well regulated from the outside.

Kissing a girl for fun has brought many a man a fortune.

A tactful man knows better than to praise one woman to another.

Edna Goodrich says that "blonds must go." Well, they are going. Several we know are going abroad, and one is going to get married.

A wooden-headed man is apt to go to blazes when he gets hotheaded.

A fly seems to weigh several pounds more about daylight than at any other time.

Give the devil rope and he will hang a whole lot of people before he hangs himself.

We have always had a desire to know if some people when they arrive at the gates of heaven and are asked their names, do not insist upon giving their street and number.

A systematic and relentless campaign against rats, the construction of rat proof structures and the prevention of refuse food from accumulating so as to maintain the pesky rodents, will go far towards ridding the farm of these pests.

"STAR—Good For One, Better For Two"

Men Who Chew Are Men Who DO

THE farmers, on whom so much of America's success depends, are almost without exception, tobacco chewers. And more farmers use STAR tobacco than any other brand.

It speaks pretty well for STAR that men who *know* tobacco, many of them being tobacco raisers, prefer mellow STAR Tobacco—in the thick, tasty plug.

And don't confuse STAR with any of those 14 or 15 ounce "pound" plugs. Each plug of STAR weighs 16 ounces. Ask the dealer to let you see the revenue stamp on the box. *That* will tell the story of honest weight.

16 oz. Plugs

10c. Cuts

So great is the nation-wide demand for STAR that a year's output of sixteen ounce STAR plugs is equal in weight to 416,666 bushels of wheat.

STAR

CHEWING TOBACCO

LEADING BRAND OF THE WORLD

Liggett & Myers Tobacco Co.

SAVING MONEY ON COAL

Here's a way of getting the best quality of coal shipped direct from the mines at rock-bottom prices: Let a few farmers club together, each one taking four, five or six tons, and you get the minimum price and the minimum freight rate and your selection of the very best fuel.

This is the plan of the Burton, Page Company, who have published some highly interesting literature on the question of coal prices, how to judge coal, etc., etc. The offer is ultra liberal. You do not have to pay one cent for the coal until after its arrival. You see it first before you pay one cent, and the coal must be right or you do not pay out a single nickel.

The editor of Successful Farming is thoroughly familiar with the nature of this proposition, and believes that every farmer who can afford to buy four or five tons of coal at a time should investigate this offer of the Burton, Page Company. It means money in your pocket. This booklet and prices can be secured by addressing the Burton, Page Company, 3845 Ravenswood Avenue, Chicago, Ills.

HAPPINESS

Walt Mason, in Judge.

I saw my little Willie swap his jackknife for an old tin top, the which he gayly spins, and while it whirls its merry race, he wears upon his freckled face some fifteen kinds of grins.

He thinks he made a corking trade. "That jackknife hadn't any blade," he says; "it was a frost. I gave two marbles and some chalk to Billy Bones, across the block—that's all the blamed thing cost. But this here top's as good as new; I never saw a top could do so niftily its trick. I guess the kid I got it from—his name is Ebenezer Tom—is feeling pretty sick."

"My son," I say, "it's wrong to gloat because you got a comrade's goat or stuck him in a swap; if Ebenezer Tom feels sore and comes around to make a roar, just hand him back his top."

"I'll see him dead and buried first!" says Willie, with an ardent burst of eloquence sublime. "We traded fishpoles last July, and then I got it in the eye. I've evened things this time." So Willie twirls his twinkling top, and I suppose he'll never stop till time to go to bed: he is as happy as the bird that sings a roundelay absurd until it splits its head.

"The boy's the father of the man," remarked an ancient also-ran, whose name has been mislaid: and that old bromide, gray and sere, the relic of a bygone year, is truthful, I'm afraid. Our gladdest madrigals are sung when we with energy have flung the harpoon at a friend; when we have cinched an extra wheel by closing up some shady deal, our griefs and troubles end.

Of course you'll say it isn't true: at least it won't apply to you—you're straighter than two strings. You hate and loathe all crooked trades, and just above your shoulder blades you're growing flossy wings. But all the rest of us, I know, experience a pleasant glow when we have made a kill—when we, because of webs we spin, the unearned increment take in, until it fills the till.

My gladdest day, I do declare, was when I swapped an old blind mare to Jinks, who lived next door—the sweetest hour I ever knew; my satisfaction grew and grew, the more he ripped and swore. The village banker, good and great, the man who deals in real estate, the lordly merchant prince, the leading lawyer, learned and grand—they all are gladdest when they hand the other chap a quince.

It fills my bosom with distress this human weakness to confess, it gives your nerves a jar; but mighty few of us are saints, and you should boost the gent who paints us mortals as we are.

The war has led to some good advertisements, but the following which is displayed in the window of a North Country egg merchant will want some beating on the score of originality. This is it: "We scorn the foreign yolk."

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. **Renewals:** Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

FARM NEWS

PUBLISHED MONTHLY BY THE

SIMMONS PUBLISHING COMPANY

SPRINGFIELD, OHIO

MATTHEW C. YOUNG, PRESIDENT

Entered at the Springfield, Ohio, Post Office as Second Class Mail Matter

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV — MAY, 1915 — Number 5

SECOND-PRIZE AUTO CONTRIBUTION

Another Winner in Our Big Cash-Prize Contest for "Ten Best Uses of the Automobile"

PRACTICAL USES GLEANED FROM EXPERIENCE

Second Prize ($5.00) Contribution

By Wesley Ray, Kentucky.

Last fall, while in a rush to finish sowing wheat, a plow snapped and one of the teams had to go to town for a new one—a distance of four miles. The horses are slow, and the trip took up five hours' time that we could ill afford to spare. Those things happen every few days, and its then that we wish to own an auto.

Thursdays and Saturdays, the women must market the butter, eggs, etc., and this takes the best part of the day—an auto would make the trip, in a jiffy.

Last summer early potatoes and beans were bringing top prices in our local market, so one morning we started very early to town with a load of those vegetables. But before we got up the road a mile, Mr. C. overtook us and passed out of sight, and we saw where the "Boat" had left us! His automobile was filled with beans and potatoes. Notwithstanding the fact that this gentleman lives five miles farther away from market than we do, he had his produce marketed, and was ready to start home when we drove in, and he got a better price for his load because he was the first in. Many times last summer we would meet C. making the home run while we were driving into town. Needless to say that upon these occasions we wished for an auto.

Last fall we heard of a flock of geese and chickens some ten or twelve miles away to be sold at a bargain. We drove over one morning, only to find that a fellow from an adjoining county had been there that morning in an auto, and bought them. We lost fifty dollars by not having an automobile. Of course we wished for one then!

A farmer in another county of this state hires a man to make regular trips over the pikes, buying all kinds of produce that will sell well in the city markets. He tells us that within two years at this work, he has paid for his machine on the profits. He also hauls wood, corn and many other things. He figures that his machine saves the work of four teams, with only the expense of a driver, a few repairs and the cost of gasoline.

Our boys are not as contented on the farm as we would wish them to be. They cast longing glances at the automobiles passing along the pike. If we do not manage to keep a car on the farm, the city will claim those boys! Already one of them is looking forward to the time when his education is finished, and he can get a job in the city, where he can have the time and chance to learn to drive an auto.

Going to church and visiting with our neighbors is the order of Sundays, and we are sure that if the poor tired horses could talk they would say: "Buy an automobile by all means, and give us poor dumb, long-suffering animals a chance to rest, at least on the day that God rested!"

Our nearest flour mill is twenty-two miles away by pike, if we mill our wheat we save about 23 cents on the bushel (counting wheat at normal figures), but there is the loss of the teams, which we can ill afford! An auto fitted with a good rack would solve this vexing problem.

We live sixteen miles away from the county seat, and to connect by rail (which is over two railroads), takes a day to get into town. This is very vexing when a farmer wants to run down to the Monday stock sales, or to the county fair, or sometimes he is called upon the jury. If he had an auto he could make the run in an hour, and moreover, his neighbors would be glad to pay liberally for a lift who, perhaps, are going upon the same business.

Here are nine reasons why we can ill afford to live without the most useful invention of the age. This letter lays no claim upon literary style, and as for grammar and such fine points, why that is left to the city farmer who sits at his roll top desk and cultivates wide acres of "Morocco bound farming lore."

Our tenth use for an automobile would be to educate our boys and girls, and to increase our knowledge also, by employing every spare holiday and half holiday in visiting live stock men, farmers and poultrymen who are doing things in different parts of the state, and learning their methods of work and management. We hear that Bill Jones, way up in Knott county, has raised some of the best saddle horses in America, but in all these busy years, we have never had the time to journey by pike up there to try and learn how Mr. Jones manages it. If we had a car, why we could "whip" up there most any day.

The Third-Prize Contribution will be published in the June number of Farm News

Another Nice Present for Our Readers

It's mighty hard sometimes to find something nice to give to those of our readers who count and send us the correct number of times the word "SEND" appears in the advertisements in Farm News. For this month we have decided to send a

"Farmer's Handy Record Book" FREE

Every man or woman who counts the correct number of times the word "SEND" appears in the advertisements of this issue of Farm News will receive, prepaid, a copy of our "Farmer's Handy Record Book." This book contains pages for entering every transaction related to farming, it gives plans for work, and gives room for one full year. Now is the time to get this useful book. It costs you nothing—just count the number of times the word "SEND" appears in the advertisements in this issue of Farm News, and send it to the "Send" Editor, Farm News, Springfield, Ohio, and if you have counted correctly the book will be sent you absolutely FREE OF CHARGE.

4,500 tons of rails
7,000 freight cars
18 engines bought

The New York Central Lines have thus contributed to the Buy-It-Now propaganda—setting millions of dollars in circulation. *You* are *bound to benefit.* Do *your* part, large or small, to be as helpful.

Buy-It-Now

This is the time of all times for the U. S. A. to make vast strides. Let's all get busy.

LEARNING THE KNOW-HOW BY PRACTICE

By George H. Dacy

CH. MEADE was a New York state druggist. His health broke under the strain of overwork. To save his patient's life the doctor prescribed plenty of exercise and an outdoor life for Mr. Meade. The ultimate result was that Mr. Meade purchased a rundown Virginia farm. He knew nothing about practical farming. He had heard his customers talk about their crops, live stock and marketing problems. He had lived in a small town adjacent to a very rich agricultural locality. Under these conditions it was a hundred to one chance that Mr. Meade would succeed in farming.

Residence of Mr. Meade, Orange County, Virginia, whose transformation from druggist to farmer was a revelation to his farmer neighbors

Dairy barn, concrete silos and dairy house on the Meade farm

There are many city men in the same fix as was Mr. Meade. They have enough money to get well established in farming. They hanker after the independent life of the country resident. But they lack in actual "know-how." They think that it's a hard job to teach the old dog new tricks. Perhaps the system which Mr. Meade followed may furnish them with practical suggestions. From the start Mr. Meade kept his ears open and his mouth closed. In regard to every farming operation he was from Missouri. He had to be shown, and in a good many instances he knew more about the question than the demonstrator before the lesson was completed. He utilized the services of the farm management bureau of the federal department of agricultural as his right bower of efficiency. Every problem which he was unable to work out he passed along to the department. And most important of all, and unlike the average farmer, he followed the advice which Uncle Sam gave.

The countryside laughed in their sleeves when Mr. Meade paid about $35 per acre for a farm of 855 acres in Orange County. "That man Meade might just as well light a match to his money as to sink it in the old Beverly place," was the way that the denizens of the crossroads store sized up the situation. Unaffected by popular opinion Mr. Meade strictly minded his own business. That he made a good job of it is demonstrated by the remark which the writer heard made by a prominent business man of Orange. "About seven years ago Mr. Meade settled near here, and today he is one of the best farmers in this section of the South. He has improved his farm. The place is paying over ten per cent interest on an appraised valuation of $65,000 for the farm, stock and equipment. Maybe Mr. Meade was green at farming when he started, but today it is mighty hard to find a man who knows more about the brass tacks of dairying and crop production than he does."

Mr. Meade doesn't follow the cut-and-dried rules of farming. He has a mind of his own. Everybody in his vicinity grows lots of corn. Mr. Meade does not. He says that corn is too expensive a crop for him to produce. He claims that his section is ideally adapted to the production of winter grains. He grows such grains as barley, wheat, rye, and substitutes a mixture of them in his rations in place of corn. He raises only enough corn to fill his two concrete silos which have a capacity for four hundred tons. In sowing grass seed again Mr. Meade uses commonsense methods. The custom and tradition—as the custom has been followed so long that it has become a tradition—in his locality is to sow one-half gallon of timothy and about three pounds of clover seed per acre. A fine field of broom sedge, weeds and filth with a few fringes of timothy and clover ordinarily results. And the natives say that their region isn't a grass country.

Now Mr. Meade violates customs and traditions. He secures fine stands of good grass. He does it by sowing from one and one-half to two bushels per acre of a mixture of nine grasses and clovers, including red, sapling, white and alsike clover, Italian rye grass, tall meadow oat, foxtail, meadow fescue and alfalfa. This hay crop usually yields about three tons to the acre and affords a valuable pasture aftermath. At present Mr. Meade has fifteen acres of good alfalfa, despite the fact that local authorities assert that alfalfa will not grow in their section. The crop yields three cuttings and approximately five tons to the acre during the average season. Mr. Meade hopes to increase his alfalfa acreage each year until ultimately he will grow only oats, barley and alfalfa as dairy crops, which will provide a well-balanced ration with corn ensilage.

At the present time Mr. Meade annually raises from seventy-five to one hundred acres of a mixture of oats, barley and a small amount of wheat. He threshes this combination crop at one time and subsequently grinds the grain in order to prepare it for the use of cows, hogs and horses. Mr. Meade each year grows an emergency crop of cowpeas. Last year he had in forty acres. In case the supply of long feed runs short he cuts this crop for hay. But if the usual hay crop is good he turns under the cowpeas to add humus to the soil. On a small scale sorghum, cowpeas and soybeans are also produced as emergency crops. They usually are made into hay or fed as soiling crops, or occasionally they are plowed under as green manure.

Mr. Meade has met with reverses and setbacks such as fall to the lot of nearly every farmer. If the game was one of smiles and continuous sunshine all of us would be farming. Two years ago the Meade dairy barn and two hundred tons of hay were destroyed by fire. The cause of the fire was unknown. It is presumed that some of the men dropped some matches in the loft and that either rats or mice gnawed and ignited the matches. It is particularly worthy of mention that the two concrete silos passed through the fire uninjured. None of the ensilage in the silos was even damaged. If the silos had been wooden they and their contents would have been destroyed.

Six hundred acres of the farm are devoted to tilled crops and hay, while the balance is in woodland. Although the first year the hay crop was only twenty-five tons, at present the farm annually produces over three hundred tons of fine quality mixed hay. The crops are marketed in the form of whole milk, pork and calves which are sold as breeding stock. At the age of three days bull calves are sold right on the farm for $5 per animal while heifer calves bring $10 apiece. Between twenty-five and thirty calves are sold each year, the heifer calves from the highest producing cows being maintained in the herd.

When the writer visited the Meade farm in January there were sixty-six grade Holsteins and two fine pure-bred bulls in the herd, thirty-five of the animals being in milk. Seven of the cows were then producing seventy pounds of milk apiece per day. On the average about $6,000 worth of milk is marketed each year. Exclusive of the value of the calf which she produces each cow earns an income of approximately $175 a year. During the seven winter months the whole milk brings an average price of twenty-three cents per gallon, while during the five summer months an average of eighteen cents per gallon is paid. During the summer season the cows receive no grain, the milk being produced from soiling crops, pasturage and ensilage.

The calves, which are home-raised, are taken from their dams as soon as they have obtained the colostrum milk and are taught by hand to drink whole milk. Each animal receives one gallon of the dam's milk each day and this amount is never increased. As soon as the calves will nibble at grain they are supplied with a mixture of bran, middlings, oats and barley. The amount is increased as the calves are able to handle more food. At the age of two months the calves are weaned from milk, and henceforward are supplied the same ration as is fed to the mature cows.

Today Mr. Meade has a fertile, well-fenced farm, equipped with modern buildings and stocked with profitable animals. He has made good as a farmer. The net earnings of his farm are larger than those of any other place of like character and size in his locality. He has followed the lime-live-stock-legume system of improving his land. It is a funny way that things turn out. The farmers that originally laughed and sneered at Meade are now coming to him for advice and assistance. He has advanced from the station of student to the position of teacher as regards the "know-how" of practical farming.

BASIC SLAG AND USE ON WHEAT

Basic slag is the refuse resulting from the smelting of iron ore. It has practically 55 per cent lime and from 15 to 20 per cent of available phosphoric acid, although some claim that all the acid in basic slag seems to be available.

On making inquiries concerning the use of basic slag as a fertilizer I found that it is not as well understood according to its value as it should be. The best slag is imported from Europe, and the use of it is not common in this section.

Basic slag is especially suitable for acid soils, on account of the lime, and it is especially suitable for wheat, as it contains two necessary food elements—lime and phosphorus. The 55 per cent of lime in basic slag is no more effective than the ordinary lime from limestone which costs but a fraction of that in slag. Quotations on basic slag for Indiana are $16 or $17 a ton, thus making the lime or phosphorus comparatively high. Unless the land is already rich, or has been heavily manured for preceding crop, a fertilizer containing the three principal fertilizers—nitrogen phosphoric acid and potash should be used, as a 30 bushel crop requires 42 pounds of nitrogen, 20 of phosphoric acid and 30 of potash.

We farmers have to decide for ourselves the kind of fertilizer to use. We have heretofore found out that by proper care we can so arrange that phosphoric acid is all that need be supplied. By following a legume crop on good soil nitrogen may not be needed at all. Ordinary soils, well managed, supply the bulk of potash, and the problem that confronts the wheat grower is to supply an abundance of phosphoric acid at the cheapest possible cost. As it costs practically $13 per acre to raise wheat, the farmers cannot depend upon any fertilizer containing great bulks of nitrogen, potash and phosphoric acid. We must so manage to conserve nitrogen and potash and then supply phosphoric acid. Basic slag is thus an ideal fertilizer, especially on well-managed loam and clay soils.

Basic slag, when used judiciously, pays in an increased yield as well as a better one at reasonable cost.—Harry D. Akers.

CAREFUL DOCTOR

Prescribed Change of Food Instead of Drugs

It takes considerable courage for a doctor to deliberately prescribe only food for a despairing patient, instead of resorting to the usual list of medicines.

Some truly scientific physicians recognize and treat conditions as they are and should be treated. Here's an instance:

"Four years ago I was taken with severe gastritis and nothing would stay on my stomach, so that I was on the verge of starvation.

"I heard of a doctor who had a summer cottage near me—a specialist from N. Y.—and, as a last hope, sent for him.

"After he examined me carefully he advised me to try a small quantity of Grape-Nuts at first, then as my stomach became stronger to eat more.

"I kept at it and gradually began to have color in my face, memory became clear, where before everything seemed a blank. My limbs got stronger and I could walk. So I steadily recovered.

"Now after a year on Grape-Nuts I weigh 153 lbs. My people were surprised at the way I grew fleshy and strong on this food."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

If set to work on our public highways the convicts in our prisons would go out into the world after their sentences are fulfilled better qualified to take their places as self-respecting men and stronger mentally, morally and physically. This aspect of the good roads' subject is receiving constantly increasing attention. New legislation may be necessary, but it should be forthcoming.

The smell of a hog in a pen and one in the pan is not to be confounded, but they are both necessary to prosperous farm conditions. This doesn't mean that his pen is to be neglected either.

THIS TRADE-MARK IS YOUR GUARANTEE

REG. IN U.S. PAT. OFF.

There is no genuine BAKER'S COCOA or BAKER'S CHOCOLATE unless it has this trade mark on the package.

WALTER BAKER & CO. LTD.
ESTABLISHED 1780
DORCHESTER, MASS.

BROWN FENCE
WE PAY FREIGHT
DIRECT FROM FACTORY
Over 150 styles for every purpose—hogs sheep, poultry, rabbits, horses cattle. Also lawn fence and gates.
13 CENTS PER ROD UP. ALL DOUBLE GALVANIZED
Write now for new catalog and sample to test.
The Brown Fence & Wire Co. Dept. 15 Cleveland, Ohio

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USE OF CONCRETE IN TREE SURGERY

By H. Colin Campbell

MANY a fine old tree whose heart is being eaten out by decay can be saved by the intelligent use of a little concrete. As nearly every one knows, most trees grow by the yearly addition of a new ring to the wood immediately under the bark. This new ring, known as "sapwood," may be likened to the arteries in the bodies of men and animals; without it the sap—which is the blood of the tree—cannot make its way from the roots to the branches. Cavities occurring from any cause gradually increase in size until, through lack of nourishment, the tree starves, weakens and eventually dies.

Wonderful advance has been made in tree surgery, sometimes spoken of as tree dentistry; but no lesson that it has taught is more important than this: that bark and sapwood will eventually grow over concrete-filled cavities. Naturally this has led ill-advised persons to undertake the treatment of their own trees without understanding that success could be attained only by observing certain necessary precautions.

In the first place, the cavity should be thoroughly cleaned. If you have ever had a tooth filled, you will recall the dentist's painstaking and pain-giving diligence in this respect. As with a tooth, so with a tree. Decaying wood or fungus growth left in the tree under the concrete will cause decay to continue. After the cavity has been thoroughly cleaned and scraped it should be treated with a germicide such as creosote, crude petroleum or a copper sulphate solution made by dissolving 1-4 pound sulphate of copper (blue vitrol, commonly called blue stone) in 10 gallons of water.

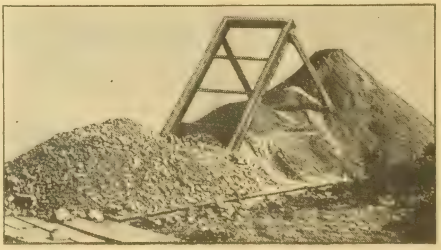
Following this treatment, a thick coating of hot tar should be applied to act as a spring or expansion joint to prevent the wood from cracking the concrete.

If the cavity is large, concrete should be reinforced. This may be accomplished by driving a number of 20-penny nails in the cavity, or by using 1-4 inch iron rods extending from side to side of the opening. The kind of reinforcement will depend upon the shape and size of the cavity.

Before beginning to fill the cavity, the surrounding bark should be cut back 1-2-inch from the face of the opening. Concrete should be mixed in proportions of one sack of Portland cement, two cubic feet of clean, coarse, screened sand graded in size from fine particles up to 1-4-inch and 3 cubic feet of gravel or broken stone varying in size from 1-4-inch up to 3-4-inch. Enough water should be used to make the concrete of jellylike consistency, and care should be taken to work the concrete thoroughly into every part of the cavity.

If the cavity is so open that a form is required to hold the concrete while hardening, heavy burlap or tin may be tacked to the tree and across the opening. If tin is used the surface next to the concrete should be greased with a mixture of equal parts of raw linseed oil and kerosene. When the concrete has partially hardened; that is, a few hours after placing, the form should be removed so that the surface may be finished to conform to the natural shape of the tree in order that no deformation may appear after the bark shall have grown over the concrete filling. Damp burlap, or other moisture retaining material, should then be lightly fastened over the concrete fillings and kept moist for a week while the concrete is hardening.

The above pictures illustrate the use of concrete in successful tree surgery



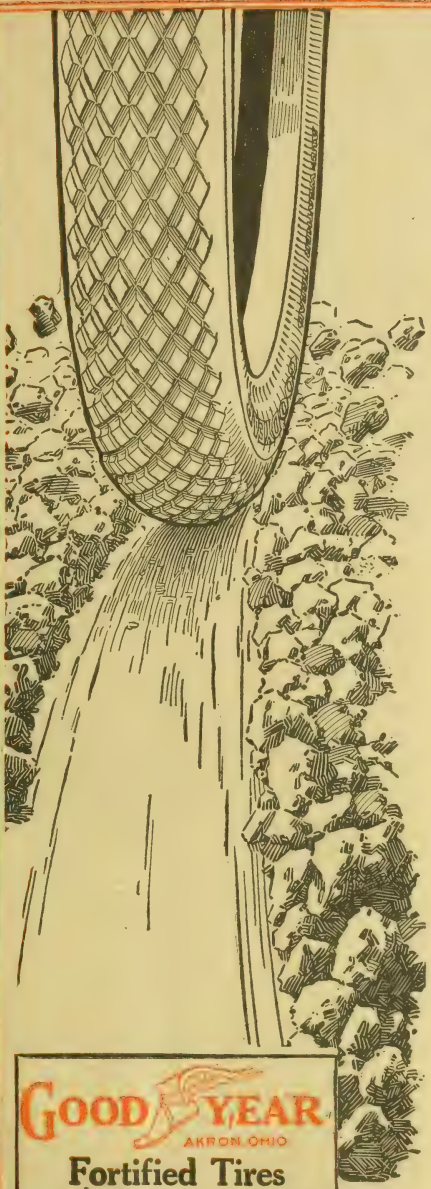
Showing the normal proportion of sand and dirt to gravel from "bank-run" gravel

PROPORTION YOUR CONCRETE CORRECTLY

Nowadays everybody is using concrete for all sorts of permanent farm improvements. Feeding floors, stock tanks, hog troughs, fence posts, milk houses and barnyard pavements are a few of the things that come to mind when concrete is mentioned. Nearly every farmer will be making concrete for some one or more of these before the season of 1915 shall have closed.

Sand and gravel are usually found combined in a gravel bank or pit on the farm or nearby. To use this material without screening is an error that is likely to produce serious and expensive consequences. It is almost impossible to obtain from a gravel bank two loads of material graded alike; proportions of

(Continued on Page 28)



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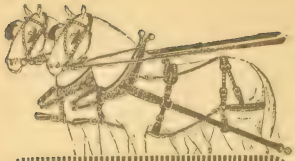

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Meadows on Rented Farms

An Interesting Discussion of an Aggravating Question

By Lester J. Meredith

One of the most puzzling problems confronting the owners of rented farms is that of maintaining good meadows and pastures. The average tenant, who has not the means of deriving the greatest profit from the production of grass and forage crops, has a constant desire to get the plow into thick, heavy sod, and replace the grass and clover crops with King Corn. Corn is the crop of crops in his estimation, and it is natural for him to give it the right-of-way. A few of the more thrifty tenants, who have a deep appreciation of the value of meadows and pastures, are held back by limited finances and the prevailing system of one-year leases. Every landowner should take a personal interest in encouraging the better class of tenants, and co-operating with them in building up a system of farm tenantry that has as its basis the growing of grasses and clovers and the breeding and feeding of improved live stock. The whole matter rests largely with the owners of the farms, as the tenant is chiefly concerned with getting the largest possible returns from his labor, and not with building soil fertility on another man's farm. Give him a long lease, and show him how it is possible to make more money as a constructive farmer than a soil robber, and the problem will be in a fair way to be solved.

Landowners who are in earnest about conserving the fertility of the soil can do much to improve conditions by furnishing adequate buildings, water supply, fences, and, in some instances, by helping to finance stock breeding and feeding operations so that the tenant will be able to make profitable use of the grass and clover crops. Such a change of policy will be welcomed by the better class of tenants. The others will be run out of business, or driven to districts where soil conservation has not yet begun. Landowners who fail to adopt systems of leasing which provide for the maintenance of productive meadow and pasture lands, will find their farms gradually declining in fertility until the yield of crops will not pay enough to cover interest, taxes and insurance. Reform must come through the earnest co-operation of landowners with their tenants.

Every farm lease should be accompanied by a map of the farm with the different fields numbered, and should state explicitly how many acres of sod ground may be broken up and how many acres of land is to be seeded, as well as the quantity of seed to be sown to the acre. If the landowner is alive to his interests he will be on hand at the time the seeding is done to see that it is properly sown. One year ago last spring a prominent Illinois landowner, who had occasion to visit one of his farms rather unexpectedly, found his tenant's man seeding clover and timothy with oats and the drill was set to sow two quarts of the mixed seed to the acre. After investigating the matter he discovered that the tenant had sold more than $75 worth of clover and timothy seed to one of his neighbors. This is only one of a long list of cases we could refer to where the tenant, through dishonesty, has virtually broken up the crop-growing system prescribed for in the lease, by selling grass and clover seed instead of seeding it with the small grain crops. In the above case, however, the landowner ousted the tenant and seeded the grass and clover crop in time to prevent a loss of the next year's seeding.

Many meadows have been practically ruined through the tenant allowing stock to run over the farm during the fall and winter months. During some seasons the growth of grass is a great temptation to the tenant, but the sod is not yet formed, and the ground is likely to be puddled or made rough by the trampling of the stock, while many of the young plants will be pulled up by the roots. Every lease should prohibit the practice, for the success of the crop the following year depends in no small measure upon the growth of leaves it is allowed to make the first season. The leaves make starch and other foods, and store them in the roots for the early growth of the plant the following spring. If they are grazed down the store of food in the roots is lessened. With clover, particularly in a northern climate, the growth of leaves serves a valuable purpose in protecting the roots during the winter.

Lands that are subject to washing should be kept in pasture all the time. Much land that cannot safely be cultivated can be made into profitable pastures. Any sod-forming grass will help to prevent soil-washing, and often it may be found practicable to grow a crop of corn or potatoes at intervals of five or six years and reseed as soon as the crops are harvested. Other lands should be kept in permanent pastures, and under no consideration should the tenant be allowed to break up the sod.

Many landowners, who appreciate the value of the grasses and clovers in building up the fertility of their farms, insist that all of the farm manures be applied to the grass crops. Such a system is no hardship to the tenant after it becomes thoroughly established, for the corn crop is greatly benefited by the plowing under of a thick, heavy sod, and an abundance of organic matter is left in the soil to insure profitable yields of small grain. Landowners who have adopted a system of farm tenantry whereby the manure is applied to the meadow and pasture lands, and no roughage is sold from the farms, have about solved the fertility problem. A little phosphorus and potassium may be needed to balance up the manure, and lime may be needed to sweeten the soil before clover will succeed, but these elements are cheaper than commercial fertilizers and green manure crops, which

are essential if equally satisfactory results are obtained.

If our real object is to make the grass and clover crops do their best work for us, the best time to apply the manure is during the fall and winter, saving what is made during the spring and summer months to patch up the thin spots in the new seeding after the grain crops are harvested. Grass fed in this manner will feed stock to better advantage, and the clovers will be encouraged to endure longer, and we will have a thicker, richer sod to plow under at the end of the rotation.

Under the divide-the-dollar, or partnership, system of leasing, many tenants object to paying a portion of the fertilizer bills where the materials are used for seeding grain crops when grass and clover seed is sown at the same time. It is, indeed, surprising that so many editors and agricultural men will view the matter in the same light. I am willing to concede the fact that the landowner has a more vital interest in maintaining meadow and pasture lands than the tenant, but how any man with a fair degree of agricultural knowledge (farm sense) can advise such a practice is beyond my powers of reasoning. My idea is that the tenant who has a five or ten-year lease of a farm that is well seeded at the beginning of the lease should leave the property in as good condition, outside of the natural depreciation, as when he began the lease. A fairer division of the cost of fertilizers would be for the owner of the farm to pay two-thirds and the tenant the one-third. If lime is needed to put the ground in condition to grow such crops as clover and alfalfa, that will gradually add to the fertility of the soil, the landowner should buy it if the tenant will apply it to the land. Expenses for hauling should also be shared by the owner of the farm if the distance exceeds three or four miles.

On farms that are rented for cash rent the leases should specify what crops may be grown and what may be sold from the farm. Some leases permit the tenant to sell roughage and pay the owner a stated sum per ton. Such provisions encourage the tenants to feed out the crops on the farms rather than pay the landowner for the doubtful privilege of selling them in the markets.

No matter what system of crop growing or stock feeding is being practiced the growing of grasses and clovers is the only successful means of maintaining and increasing soil fertility. They must be depended upon to restore the productivity of our corn-belt soils. The growing of grasses and clovers carries with it the idea of intensive rather than extensive practice, which means better cultivation, better crop rotations, continuous occupancy of the soil by a growing crop, an increase in the supply of farm manure from stock feeding, and an increase in soil residues through the return of the roots and stubble of the clover and grass crops, and a consequent natural improvement of the soil.

Landowners who will insist upon tenants maintaining a fixed acreage in meadows and pastures will practically compel the feeding of stock and better systems of soil management. Such a policy will eliminate the nomadic class of tenants and encourage those who are seeking homes where they can stay as long as they choose.

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UTILIZING CHEAP FEED ON THE FARM

It should be the aim of every farmer to utilize all the cheap products grown upon the farm by feeding them to live stock, allowing none to go to waste. The value of live stock for turning low-priced products into good money is not appreciated by some farmers, however.

The products to which we have reference come from various sources, as light or damaged grains, cheap and coarse fodders, as by-products such as the wastes from the dairy, the garden and orchard. Without live stock on the farm to consume them, these products possess little value. The proper utilization of these mark the difference between success and failure in farming. In many instances it would not be too much to say that the net income is derived from this source alone. In other words, a nice income is derived from the proper utilization of these products that, under present conditions of farming, will bring no revenue to the farmer in the absence of such utilization.

The growth of grasses and weeds in the stubble fields, which sheep will turn to excellent account, is generally allowed to go to waste. Much of it becomes a menace to clean farming because of the weed seeds produced. The heads of grain which fall numerously while being harvested are usually allowed to lie where they fell until they have decayed, notwithstanding that hogs, if given the opportunity, will diligently gather them and turn them into good pork.

The screenings, which consist of light grain and weed seeds, and which make excellent food for hogs or sheep, though unground, and for cattle when ground, are left on the ground, or else are given away to the men who purchase the grain. These men sell them back again to the farmers who grew them, at good prices, provided the latter must buy ground feed.

On all farms on which mixed farming is conducted, many products are grown each year the market value of which is so little that it hardly pays to take the time to market them. Some are really unmarketable. And yet all of these may be marketed, so to speak, at good prices right on the farm by feeding them to the classes of live stock adapted to their consumption. Coarse, weedy or stained hay is seldom marketable, yet its value for food for live stock is considerable. The same is true of oat and wheat straw. The food value of these may be superior to poor hay, and yet there may be little demand for them in the open market. Corn stover has a feeding value per acre equal to timothy hay, and yet millions of acres are left unharvested every year.

Grains that can be fed much more profitably than marketed, are those which are inferior in quality, because of lack of plumpness, or because they have become stained through exposure. When the grade of grain is discounted, that is, when it is marketed low, the market value is usually quite below the feeding value to the producer.

Miscellaneous by-products are those of the dairy, orchard, and the garden. Everyone knows the value of skim milk. Fallen fruit in orchards has a considerable feeding value for sheep and swine. If these animals can have access to it where the fruit falls, they will not only be benefited thereby, but myriads of insects in embryo or otherwise are thus destroyed.—W. F. P.

THE CONCRETE FEEDING FLOOR SAVES FEED

That the concrete feeding floor is of great practical value to the hog feeder has been known by the few for a long time, but it is only within the last couple of years that the feeding floor idea has been adopted to any large extent by general farmers. Now hundreds of farmers who feed from twenty-five to one hundred head of hogs a year are constructing feeding floors on which to feed and slop their animals, and it is the universal experience of owners of such feeding lot equipment that, frequently in one season, a feeding floor properly constructed will pay for itself in the saving of feed alone, to say nothing of its great convenience to the feeder.

Concrete is far cheaper than lumber in the long run for constructing a sanitary feeding floor. The latter should be planned large enough so that each animal will have at least ten square feet of floor space. The materials entering into the construction of a floor three to four inches thick will cost between 75 cents and one dollar for each ten square feet of space. The cost of hauling the materials and constructing the floor will average about the same amount, making the cost of the completed floor between $1.50 and $2.00 for each animal. However, materials are usually hauled at odd times when men and teams are otherwise idle, and any farmer can soon learn to mix the various materials and pour the concrete so as to give satisfactory results, hence money need be paid out only for the cement, sand and gravel.

A site for the floor having been selected, the ground should be leveled off. Excavation is necessary if a foundation is to be provided, which is desirable. From four to six inches of cinders, gravel or crushed stone should be spread evenly, then leveled and thoroughly tamped so that no one part will afterward settle more than any other. Nothing but the best cement should be used for the floor. The sand or screened gravel used with the cement should be clean and sharp and free from any clay or dirt. Five parts of sand or gravel to one part of cement will give a product that is plenty strong enough if the cement and gravel are thoroughly mixed. The surface of the floor should be given a rough finish.

A fence around a feeding floor makes

the floor more valuable in many ways at all seasons, and it is almost necessary when much winter feeding is to be done in order to protect the animals from cold winds. A hog will not stay out in a sharp wind long enough to eat a full ration. But with the tight board fence around the outdoor floor to break the winds, the animals will experience little discomfort even in the very coldest weather. Gates should be put at each end of the floor. The entrance gate at least should open in, for when the pigs are shut out until after their feed is in place it is almost impossible to open the gate against the hungry, waiting animals. When the hogs are marketed, the feeding floor with a fence and gates around it makes a nice place upon which the animals may be driven preparatory to loading them into the wagons.—W. F. P.

WHY THE "POOR FEEDER"?

Every year it has been noticed among cattle in feed lots, that a few individuals would not make the gains expected. Various causes have been attributed to this condition as "poor" teeth, indigestion, infectious diseases, etc.

Upon post-mortem inspection of several thousand beef cattle in some of the packing houses of the West, the author has frequently found foreign bodies, as barley beards, or foxtail, imbedded in the tongue, in some instances resulting in abscess formation, or even actinomycosis (wooden-tongue); or penetrating through the wall of the second stomach (honey comb) a short piece of baling wire or a nail. Sometimes this piece of wire or other foreign body had penetrated a lung, pneumonia ensuing; or into the heart or its coverings, resulting oftimes in gangrenous inflammation.

Occasionally other conditions and diseases are noted as multiple liver abscesses, tumors, parasites, tuberculosis, etc., which in many instances no doubt were contributing causes to this condition of the "poor feeder."—H. S. Eakins, Col. Ag. Coll.

TRAINING YOUNG MULES

It is a common error that all mules are vicious. To "kick like a mule" is a proverbial and misleading saying. Mules are not worse than horses in this respect. While it should be denied that mules are naturally vicious, it is undoubtedly true that some are made so by ill-treatment and abuse. The same is true of horses. In general, the mule is quiet and patient in temperament, and, when properly instructed during its youth, is just as steady and reliable as a horse. It is much easier to take a mule colt in hand at an early age and train it properly than it is to take an older animal that has been misused and overcome any habits or tricks arising from years of poor management. Kindness is the best policy in dealing with mules as well as with other domestic animals. Mules that are accorded decent, humane treatment when young nearly always make docile and tractable work animals, and are always ready to respond to good, common-sense treatment. The mule that is roundly abused becomes ugly in the same way as the horse develops viciousness when he is continually mistreated.

The mule foal's education should begin early. The young animal should be accustomed to the halter and taught to lead before being weaned, and thereafter it should be handled regularly until time to break it to harness. Gentle methods are desirable in the latter operation. If the young animal develops normally, it is capable at two years of age of doing considerable farm work, and in any case it is advisable to give some light work. It is not well, however, to put mules at hard work much before four years of age.

For the indications of disposition of old mules look at the head and eye, say those who have handled these animals for many years. Avoid mules with abnormally long heads, as well as those with hollow faces. The eyes of the gentle mule are soft and mild and set well apart. A sign of docility in a young mule is indicated by constant motion of the ears; one ear pointing forward, the other backward is also regarded favorably. But beware of the mule that habitually lays the ears back upon the neck, say the authorities. It is claimed by some that the little mule is more apt to be ill-tempered and vicious, and that the larger the animal the better the disposition.—W. F. Purdue.

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Simplified Distribution

The Cure for Many Marketing Ills to Which the Farmer is Heir

By Alvah H. Pulver

IF THE same efficient methods of distribution were applied in handling of fruit and vegetables as are in evidence in many mercantile lines there would result increased consumption, with the high probability of a better remuneration to the grower, and this, too, without an increase of price to the consumer. In many cases the consumer would buy good fruit and vegetables for less money.

How to secure more money for the grower of fruit and produce, and at the same time enable the urban consumer to buy for less money per bushel, may seem like an impossible adjustment. Let me take some concrete illustrations of how the game worked out this season. Everyone interested in apple and onion production knows that no bonanza prices were paid by dealers this season. Some growers released their crops at figures so modest that new low-level prices for recent years were established. Even the barrel manufacturers realized that it would not do to tax the barrel price at around fifty cents for the season, and so, in a year of enormous demand, barrels sold cheap, thirty-four to thirty-six cents being the price.

This large lettuce crop was marketed through co-operative exchanges. The grower will increase his acreage this season, and sell through the exchange

With these low starting costs, at many city markets, apples and barrels might have been sky high for all that the retail dealer granted as price concessions to buyers taking peck and bushel quantities. City consumers are going to purchase in the way that suits them best, and that way is by the peck and bushel in many cases. Rural consumers, even the apple and vegetable growers, do not purchase oranges by the box—not by the peck even. A dozen or a half-dozen is the more often purchased. So there is some defensible ground for the city buyer who buys by the peck and wishes to steer around extortion in the transaction.

Referring again to the present season, when buying prices were very low among the dealers, one instance of inefficient distribution at Syracuse may be cited, where regardles of the buying market some dealers ask forty cents per peck for apples—a price that amply protects them during high prices and mulcts the consumers in times of plenty. This is a fair sample of what is being practiced far and wide in many urban centers. Naturally an inflated price in abundant years can hardly contribute to increased consumption, commensurate with yields of bumper proportions. A repressed outlet through high cost reacts to the producer with damaging effect. There is something radically wrong with the distribution of our farm products when oranges meet a transcontinental freight rate and sell for less money than choice apples in the city markets of their home state.

However, there are indications that the farmer is demanding some part of the city end of the distribution job for himself, and this movement by the grower, so lately started, is showing success wherever launched. Near our city of Rochester the producing farmer has advertised his fruit and vegetables in the city papers by means of small ads, giving the delivered price per bushel in terms that appeal directly to the city consumer. By way of comparison, this year, his figures were fifty cents per bushel for apples as against forty cents per peck asked by the Syracuse dealers. The farmer in the one case sets his price and deals direct, starting in a small way, with an aim of holding his customers by courteous treatment and building the business to worthier proportions. The other producer sold his crop through the ordinary channels of the dealer, receiving possibly a fair price—always the lowest price at which the goods could be obtained as the result of a personal barter. Invariably in plentiful years the bugaboo of a plethora is the cudgel of argument depended upon by the dealer to curb the price agreed upon to the lowest level.

Time and again the grower learns in later months that the fruit or vegetable is good property, and just as likely he attributes the expansion in value to the

devious course followed by the product in its travels to the consumer. In all such cases the grower knows comparatively nothing of the processes of the fruit he has given so much attention in bringing to maturity.

There have been years when the dealers themselves misjudged the situation, and loaded up at prices that did not carry throughout the season.

In a small way producer and consumer come together by the grower who advertises his crops direct. In a much larger way an enlargement of this principle is being developed by the various exchanges springing up in different sections of the country. That the exchange idea offers wonderful opportunities for the development of the fruit and vegetable industry is borne out by the phenomenal success of the California exchanges in resuscitating the fruit trade of that state when it had reached a low ebb. Such are the minute details of California exchange operations that a small wholesale fruit firm near us, in a town of less than 6,000, purchases oranges in solid car lots, direct from California, and distributes them within the county, enabling the retailer to profitably handle the fruit with prices less to the consumer than Eastern apples could be sold for in California, boxed and routed in the ordinary way.

The apple is the king fruit of America, and it is here to stay, but so long as tribute is exacted in the way of extra handling charges, tending to inordinately maintain prices to the consumer—just to that extent will there be a limit to the consumption of apples. A cheaper substitute fruit will enter the dietary list in countless homes when the luscious apple is doled out at forty to fifty cents per peck.

There will be no scares of an "overproduction" when the modern exchange idea is operative as fully in the fruit and vegetable business of the whole country as it is in California, Washington and Oregon. Hardly anyone eats as many apples as the human system really craves. With better distribution and better recognition of the apple's value as a food and tonic there will be a place for all the apples America can grow.

CO-OPERATIVE THRIFT

As an example of co-operative thrift possible between farming sections in different parts of a state, Greene and Portage counties, Ohio, deserve mention. The point should also be brought forward that each county possessed a live business-outlet seeker, as well as farm advisor, in their respective county agents—Messrs. Miller, of Portage, and Cook, of Greene. Then too, each county agent would want the farmers with whom they were associated given the fullest meed of praise. Which same is the logical result of co-operation, instead of hectoring or lagging 'way in the rear of efforts for the good of all.

It being impossible to change the soil of these counties, even if the farmers had wished, the next best thing to do was to so co-operate with the farm lands that each acre would yield its full quota of potatoes in Portage and alfalfa in Greene. When that was accomplished last year each county learned the price of their particular commodity was likely to fall. They likewise found out, that one was short on alfalfa and long on potatoes; and the other, that potatoes were a drug on the market while alfalfa was pretty scarce. Usually such results mean the farmer does the best he can in disposing of a heavy crop to his local customers or commission houses, with the result that he does not profit as he should.

Faced by the above conditions, the farmers found out that their county agents had been quietly working to the end of the farmers' interest they represented, for it was a part of their plan to put their farmer co-partners' welfare first, last, and always. Through the state clearing-house for county agents, otherwise known as the Agricultural Experiment Station at Wooster, they were advised respectively where potatoes were wanted and where alfalfa would be welcomed. The result was that the county agents communicated with each other, and then passed the resultant information to the farmers in their location. Portage county farmers hauled two carload lots of potatoes to cars upon a railroad siding billed for Xenia; and the farmers of Greene county filled two cars with baled alfalfa hay destined for Portage county consumers. Each farmer received the prevailing wholesale price for his product.

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"Then I tasted it critically, for I had tried many 'substitutes' for coffee. I was pleased, yes, satisfied with my Postum in taste and effect, and am yet, being a constant user of it all these years.

"I continually assure my friends and acquaintances that they will like Postum in place of coffee, and receive benefit from its use. I have gained weight, can sleep and am not nervous."

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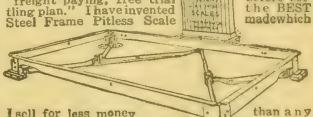

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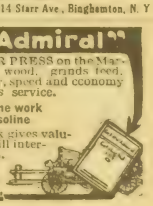

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LUCKY VS UNLUCKY FARMERS

The Something Which Makes Success for One and Failure for Another

By C. L. Chamberlin

FARMING is a business, and no business can be successfully conducted on hard-and-fast lines. Initiative and executive ability, that for which the world pays the highest salaries, consists mainly of knowing when to stand fast and when to move with the crowd. The successful businesslike farmer must learn to decide the conditions next year and the years after from what they are this year, and were last year and the years before. From such learning he is able to determine what product shall be the center of effort the coming year.

While a well-planned crop rotation covering four or five years will in a measure determine the cropping for these years, yet the successful farm executive will always have sufficient "loose ends" around him to pull in a profitable crop at a single season's notice. He will keep himself, his farm and his surplus funds in shape to take advantage of sudden changes in demand.

"Lucky fellow," is the term their "unlucky" neighbors always apply to such men. These "lucky" farmers always seem to "happen" on a full crop or full supply of a particular kind of live stock just when that product takes a run to the top-notch. The "unlucky" ones were following a sound system of rotation, fertilization and drainage, but they always seem to be a year out of the way. When their rotation demanded wheat that cereal slumped, and when they were taking a turn at the legumes, wheat circled the dollar mark, and corn seemed bent on a dead-level competition. As soon as they get everything into wheat before the steady demand (?) had left them, wheat was decidedly off, oats, medium, live stock in the ascendent in prices, decidedly scarce in body. Oh the unluckiness of some! Here was the "lucky" neighbor making his rotation by no better plan, possibly the same plan, but always hitting the right crop for the right year. Oh the "luck" of some men!

But is it luck? Does the fickle goddess so persistently plan to serve her favorite sons and frown forever upon those who chance to incur her enmity? We hesitate to believe it.

Sometimes the "lucky" man is a "book" farmer, an ex-student of an agricultural college, who has been taught that there is a scientific or an economic cause for every change in the growth and development of a product or in the demand and consequent price. Sometimes he is just a plain, untaught, son of nature, with few of the adornments or accomplishments of the towns. All the same he has been a careful observer of farm life and all that pertains to his calling, and since learning to look into books and periodicals for the causes of things he had formerly known only by appearance he has moved up among the "lucky" ones.

The "lucky" farmer has learned to know that one year's demand may be the glut of next year's market. In these days of rapid transportation isolated conditions affect the general market but little. Our western prairies may burn dry with drouth, and the average of the world's wheat crop be only the least affected. Argentina, Australia, Russia, all the other grain-producing countries, turn in bumper crops, fast freight ships carry them to the centers of greatest demand, and the failure of the west is equalized.

The "unlucky" farmer sees wheat high in the markets, and he says, "Wheat is worth a dollar a bushel or will be shortly; I shall raise all the wheat I can next year and make a lucky strike myself."

The "lucky" man says, "Wheat is now a dollar a bushel. Why? Will that same cause operate again next year?" He reads that our own wheat states suffered a drouth and that Russia's crop was a failure. The home failure frightens local buyers into fear of a bread famine, and the news from Russia shows that she too must import. Will other regions be able to fil the demand? Before he decides to "go in" for wheat the coming year he investigates other lands. Then he reads that Australia and Argentina and South Africa are growing what promise to be phenomenal crops. They are south of the equator, their seasons are half a year out of line with ours, and already they are getting under way bread material to feed the world if need be. India too is able to hand a little of her last yield to her starving neighbor to the north. Added to these, suppose our own crop and Russia's be only normal next year—"Why you couldn't give away wheat," says our "man of luck," and he decides on his usual acreage in carrying out his rotation, and turns to the live-stock indications.

On one page he reads "Present high prices on wheat lead many farmers to abandon live stock and turn their attention to the great bread cereal." Again he reads, "The treaty recently negotiated between the United States and—greatly lessens restrictions on American meat products imported by that country, and packing houses are making plans for an unusually large export trade the coming year."

"It's cattle and hogs for me," says our "man of luck," and he looks about him carefully to pick up the choice shoats, calves, yearlings and two-year-olds which his wheat-crazy neighbors are holding out on every hand. One year later the "lucky" farmer renews his right to the title, while his neighbors curse farming in general and their "luck" in particular.

Luck in farming, as in other callings, goes to the one who is best prepared to receive it. The prepared man is one who, as we already remarked, has sufficient loose ends to pull in a profitable cash remuneration for his time and effort, whatever his plan of rotation or change in the market. Some farm products may be increased or permitted to lie idle, according to the special care and effort put upon them each year. The man who has a hundred choice young hens easily keeps his family and friends in eggs and young table fowls. When a winter comes that shows eggs at forty cents in the home market and almost any price, if fresh, in city markets, special attention, warm feed, warm but thoroughly ventilated houses, vegetables, meat scraps, ground bone and oyster shells, plenty of dry sand for dusting and loose straw for exercise—why the egg returns alone are no small sum. With the coming of summer and twelve-cent eggs he allows his hens to do about as they please, rest up in fact for the next winter.

Fruits may be stimulated and turned to productive cropping certain years, and allowed to apply their increasing vitality to growth in other years. These are only a few of the loose ends that the lucky farmer keeps around him.

The trouble with many of the unlucky ones is that they seek to be too lucky. They long to hit the market for thirty-five-cent butter and eight-cent beef at the same time. They expect their fowls to lay an 80 per cent egg production all winter at forty cents a dozen and in spring they want these same home-produced eggs to hatch into chicks ready to become (forty-ounce) thirty-cent-a-pound broilers in two months. They failed to meet their expectations and forthwith decry poultry, dairying and luck in genefal. These are loose ends that never meet. After all there's a lot of forethought—and hindthought, too—needed to woo successfully the elipsive jade—LUCK.

LAUGHTER IN THE SUPREME COURT

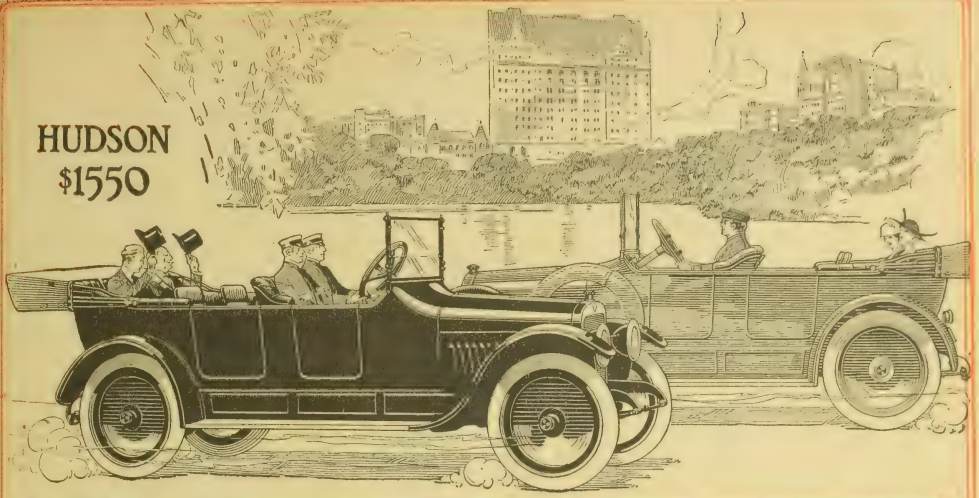
The supreme court of the United States is absolutely and indisputably supreme when it comes to solemnity, dreariness, and gloom. People do not laugh once a year in the funeral-looking chamber. All you have to do is to set your foot inside it in order to understand that the dispensing of justice is a heavy, ponderous, and serious affair.

Not long ago, however, Mr. Justice Lurton made the lawyers, the auditors, and the other justices laugh right out loud.

A lawyer from the South was arguing a case concerning two secret fraternal lodges.

"May the court please," said the lawyer heatedly, "the opposing lodge not only got hold of our ritual and used it, but also got our insigna and regalia."

"Just a moment," interposed Judge Lurton. "Did they also get your goat?"
—The Popular Magazine.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PRESERVING BUTTER

Butter cannot be preserved by any covering. Its inherent quality alone can do this. If it is solidly packed in an air-proof receptacle necessarily only the top of it can be affected by contact with the air. But there is always some impurity retained in butter after it is made, in spite of the most skillful treatment.

By skillful management this can be reduced to a minimum, but there will still be some of the buttermilk left in it. The best-made butter exists in the form of small globules after churning, and it is impossible to wash these in pure cold water so thoroughly that all traces of buttermilk will be got rid of completely, for each of these globules is made up of smaller particles adhering to each other, and these have the form of still smaller globules, so there are as yet some minute particles of buttermilk unavoidably left in the butter which cannot be removed unless it is actually melted into oil and then solidified again. This process is not admissible.

Under the best conditions the best-made butter may be kept six months in a dry, cool cellar, well ventilated when it is packed in a perfectly pure, air-tight receptacle, and this without the addition to it of more than the due proportion of pure salt. The product may improve in flavor to some tastes during this time of storage. Some antiseptic entirely devoid of flavor, such as saltpeter, may assist in keeping butter, but there is no necessity for its use. If, however, the maker has not the experience which gives confidence the use of one quarter ounce of it to the pound of butter will be a help in keeping it. This and the salt together should be reduced to a fine powder and intimately mixed with the butter. One ounce of salt to the pound of butter will be about right.

Of course the receptacle in which the butter is kept must be perfectly free from taint. It is the common practice in fine dairies, where the surplus is packed in this way, to use white-oak pails of fifty pounds capacity, made in the best manner, and varnished with copal dissolved in alcohol, inside and out. The butter is packed solidly, and, if not all at once, what is packed is covered with brine made with boiling water, and strained, then cooled, and as each layer is packed it is sprinkled with salt or this mixture. When the pail is filled to within a quarter of an inch of the edge this space is covered with a piece of muslin, well washed in boiling water, and then dipped in cold brine, and spread over the butter, which has been lightly sprinkled with salt or the saltpeter mixture made very fine. The cloth extends a full inch over the edge of the pail, which is then filled up with the finest dairy salt (now this, of course, is used all through the work), and the edges of the cloth are turned down over this salt. The salt is pressed firmly down into the edge of the pail, the cover is put on, and this is pressed down as tightly as possible by a lever until it meets the edge of the pail. Then the clips by which it is held down are fastened.

Some buttermakers are so particular as to use a gasket of thin cork or canton flannel doubled and soaked in brine, around the edge of the pail to secure the butter still further from contact with the air. The pail so packed is kept in a cool, well-aired place, free from odors. A place especially provided for it is best, and a label should be attached with the number and date of the package. One may then guarantee the condition of the butter to be equal to fresh made at the end of six months, and to all but those consumers who prefer flavorless and odorless butter, the well-ripened aromatic article will be perfectly satisfactory.—John Underwood.

MAKING BUTTERMILK FROM SKIM MILK

It is the opinion of many dairymen, as well as a great many consumers of milk, that good buttermilk can only be produced from whole milk. But first class buttermilk can be made from skim milk, thus making better use of this valuable by-product of the dairy than is generally done. The quality of buttermilk depends mainly upon the proper ripening of the milk or cream, and does not depend upon the fat content. In either case the good qualities, such as palatability and flavor, are not due to the development of the lactic acid fermentation.

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from skim milk it is necessary first, that the latter be separated and cooled, for there is a considerable amount of air incorporated with the milk during the process of separation which causes it to foam, and as this air is warm it must be removed. When it is allowed to remain in the milk undesirable fermentation arises, and the milk will "whey," and form a tough floating curd.

If the milk is allowed to stand for a short time after being separated the foam will all come to the top of the milk, and can be skimmed off with a dipper, or the milk can be drawn off from the bottom through a faucet, or poured from beneath the foam. After this foam has been gotten rid of the milk should be run over a cooler of some kind, such as the ordinary drum cooler, but in case this is not available the milk should in any event be cooled thoroughly by setting it in spring water, or in some kind of an ice box, or even in a cool cellar. It is very important that the milk be kept cool for at least twelve hours.

After the skim milk has been kept thoroughly cool for 12 hours its temperature should be raised to 70 degrees F., which is the best temperature for ripening, and allowed to become sour. When at this temperature it will not take the milk long to sour, and in about twelve hours it will be clabbered, but not yet ready to be churned. It should now be cooled to sixty degres F. or lower. This should be done in the same way as it was cooled previously, and the milk allowed to set at this temperature at least twenty-four hours longer before being churned, thus making it from thirty-six to forty-eight hours old when put on the market. It is better not to break the clabber up until ready to churn.

Prior to churning it is very important that the maximum development of lactic acid take place. If a small amount of whey rises on the top of the milk no harm will result. The damage is done by a floating curd and whey at the bottom. Hence in successful buttermilk making it can be seen that the proper cooling and ripening of the milk are both very important features.

The process of churning can be varied to suit local conditions. The wood dasher, the same as is used in a common dash churn, can be used to thoroughly break up the clabber while the milk is yet in the "shotgun" or cooling cans. This is a fairly good method where only a small amount of buttermilk is made. Or the milk can be put in the churn and churned for twenty or thirty minutes. In any event the clabber must be thoroughly strained to remove all lumps of curd and to make it smooth. The consumers should receive the milk as soon as possible after churning because of the fact that they wish it fresh. Keeping it cool from the time of making until delivered is very important. In warm weather the receptacles should be wrapped in wet blankets or have ice cylinders in them. All vessels used in making and handling the milk must be kept perfectly clean. It may be supposed that because the buttermilk is already sour it is not necessary to exercise so much care in keeping the utensils clean, but good buttermilk cannot be made from skim milk without cleanliness in all things pertaining to it.

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KEEP THE GARDEN BUSY

The farm garden should be so planned and managed that none of the ground may be left idle for any considerable space of time. Thus, land that produces an early crop should immediately be prepared for another later one.

Where early peas, early potatoes, radishes and spring-planted spinach are grown, beets for winter use may be planted. Yellow turnips will mature if planted early in July, and the crops mentioned ought to be out of the ground, with the possible exception of potatoes, by that time. When the potatoes are removed white turnips may be profitably grown. Some varieties, when grown in the fall, are excellent for the table and any of them are of value to feed to the stock during the winter.

From celery seed planted in a seed bed in May, plants may be had to set out on the land, from which the early vegetables have been removed, in ample time to allow for the growing of a crop for winter. The winter varieties do not need to be set in the trenches until July. Celery seed is somewhat slow to germinate, therefore it is best to sow in May. Fall-planted spinach will have been removed from the land in ample time to set the tomato plants, eggplants and peppers. These may not safely be set in the ground until June in the northern sections of the country.

Crops that are planted from the middle to the last of May usually occupy the land exclusively. Sometimes, however, we sow winter rye in the fall and plow it down early in the spring, or we may be able to get a little early feed for the dairy herd. One rule to be observed in cropping rotations is not to try to grow two crops of the same family in succession. Thus we do not let beans follow peas, or vice versa, neither do we attempt to follow kohl rabi with turnips. These two are supposed to be cultivated variations of a single botanical species. Onions is the one crop that is an exception to this rule. They will thrive year after year on the same land. It is better, however, to rotate somewhat as, even with onions, such a method helps to keep the insects in check.

Cabbage, cauliflower and Brussels sprouts are never grown on the regular garden land. Newly-turned sod is required to keep the plants free from what is commonly known as clubroot. Land planted to cabbage one year is usually gotten into a good state of tilth for something else the next year.—C. H. Chesley.

GROWING SWEET CORN IN THE HOME GARDEN

Sweet corn succeeds best in rich, warm soil, but will yield a good crop on almost any garden soil if plenty of well-rotted manure is applied. The ground should be plowed or spaded deeply and all clods well pulverized.

There are several varieties of sweet corn that are very early, and while the ears are not very large, they are very good if gathered at the proper stage of growth. Make the first planting of any of the early sorts when the trees are coming out in leaf, and successive plantings every two weeks until the middle of June, to insure a constant supply of tender freshness. The later and larger varieties are more tender than the early sorts and should not be planted until the ground has become quite warm.

Ears of sweet corn can be had extra early by sprouting the seed ten days or more before the regular time for planting. Take old pans or dishes of any kind, put in a layer of rich soil, covering with cheese cloth. On this place the shelled corn and cover over with another thickness of cheese cloth and a light covering of soil. Moisten well and set in a warm place. Keep a close watch on germination and remove the grains for planting when the sprouts are about an inch long, being careful not to brush off the tender sprouts and also very careful in covering.

I have found it advisable to plant the early varieties in rows two and one-half feet apart, making the hills about eighteen inches apart. The later and taller varieties are planted in rows three feet apart with the hills about two feet apart. Four to five kernels are dropped in a hill and the early varieties are covered one and one-half inches deep and the later sorts, two inches. When well started, the plants are thinned out to three to a hill. Frequent shallow cultivations should be given until the tassels appear.

Freshness counts in sweet corn as much as in any other garden vegetable, therefore the ears must be pulled as soon as they are in the cooking stage; allowing them to remain on the stalks a few days too long seriously impairs their quality and tenderness.

It is well for the home gardener to save his own seed sweet corn, which is easily done so far as the earlier sorts are concerned. Select some of the best-eared stalks in the patch and mark them by tieing a strip of cloth to each stalk. The early varieties ripen early, and when of proper maturity as shown by the dead husks, the ears should be gathered and tied in braids, then hung up in a dry and airy place out of the reach of rodents. The later the variety, however, the more pains must be taken with it if any ears are to be saved for seed. Save the earliest ears and let them get as ripe as can be done safely. Gather the ears before frost and hang them up in a frost-free garret or other room. The ears should never be exposed to freezing until thoroughly cured.

CORN PLANTING TIME

What is the proper number of kernels to plant in a hill and how far apart should the hills be?

It is a safe guess that the readers of this paper who raise corn are in the habit of planting three grains in a hill with rows approximately three-and-a-half feet apart each way. In portions of the south and in the semi-arid west I have seen corn planted four feet apart and from two to four kernels in a hill. I once saw 3,000 acres of corn on the famous Vanderbilt estate near Biltmore, N. C., planted in rows three feet apart with one grain every twelve inches in the row.

The Illinois Experiment Station after several years of painstaking experiment in large fields under practical conditions of bread-and-butter farming, found that of all methods of planting, more marketable corn was harvested by planting two grains in a hill with the rows running three feet apart each way.

If the average farmer were told that he could find a five-dollar gold piece on the ground at the far end of his corn field, wouldn't he hike for it on the double quick regardless of weather, time or previous engagements? According to all the rules governing human nature he would. I have a hunch that he would break the speed limit going after that "easy money."

But suppose he were told that he could make five dollars extra on every acre of corn by changing his planting system! Hands up, now—how many would do it?

Personally I never planted two grains in the hill three feet apart, although I honestly believe I could come near to capturing that five-dollar prize by doing it. I suppose human nature has us all by the scruff of the neck, and we don't follow new systems because we are not everlastingly sure of results.

Yet I have great faith in the findings of the Illinois Station. I have been down there many times, and it was my good fortune to be there when those corn fields were ripening under a dozen ways of planting. I believe their best system is worth trying, at least, by every farmer. One could easily experiment with a small patch.

Probably we are all the victims of inertia, which is high-brow for "staying put" or just plain stubborness. We get in the habit of doing things in a certain way, and few of us find it easy to break away from habit. But if two grains per, and three feet each way did the business for the Urbana station, it ought to work out most anywhere under similar climatic and soil conditions. Yes, I believe I will try it out this year.—H. A. Bereman.

COMMERCIAL APPLE ORCHARDS

For commercial apple orchards, only three, or at most four varieties should be planted, for it is a well-known fact that each apple-growing section has a few varieties that will do particularly well, and the growers should take advantage of this fact and plant only those kinds that are sure to make a success.

Planting only a few varieties in an orchard, the grower is able to market his fruit to a better advantage, as he can then make car-load sales and eliminate mixtures of the many varieties. Another advantage lies in the fact that an orchard composed of few varieties is much more easily managed, both as to pruning and general care. Further, a great deal of complication is avoided with other fruit-growing communities, for if each fruit-growing section would grow only those varieties that succeed best we would not have so many inferior fruits of different kinds that are placed on the market and are apt to cause a depression because of poor quality. It has been estimated that 40 per cent of the apple trees of Colorado consist of non-commercial varieties, that is, varieties that are either obsolete or unknown to the general trade, and consequently do not command the price that standard varieties do. A material saving could be effected if these non-commercial varieties were either cut out or, when possible, top grafted to a commercial kind.

The many-variety orchards are remnants of a time when the grower bought fruit trees on the advice of the traveling tree agent, who, in many cases, sold those varieties that could be most easily grown by the nurseryman.—E. P. Sandsten, Col. Ag. Coll.

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The Bell System has always recognized rural telephone development as an essential factor of Universal Service. It has co-operated with the farmer to achieve this aim.

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GETTING FULL VALUE FOR POULTRY PRODUCTS

While it is a fact that the farmers of this country ought to raise more poultry, it is particularly true that they should get more for what they do raise. Many writers and speakers are urging quantity, and at the same time it is just as true that quality is of equal or greater importance. Comparatively few put their eggs and poultry on the market in a condition to command the highest price. Let us consider in what ways this is correct. First, regarding eggs, it is a recognized fact that some markets take more kindly to a white than to a brown egg, and vice versa. Keeping this in mind it is obvious that careful grading will pay. In the New York market white eggs usually bring several cents more on a dozen than brown. Mixed eggs are two or three cents less than the brown. Thus, if one were catering to the New York market it is plain that only the white eggs should be sent, or at least the two colors should never be mixed.

It is but the work of a few minutes to grade the eggs. At the same time no eggs that are under size or irregular shape should be put in the crates. These are just as good to use in the home kitchen, but a few mixed in with a shipment may bring the price of the whole lot down to second grade. Dirty eggs are another common cause for loss. Nests should be made of clean material. Even if an egg is washed it never has the clean look of one that never has been dirty.

As to the markets and methods of marketing this must be covered largely by local conditions. Poultrymen in isolated communities have been obliged, in the past, to sell to the local dealer for whatever the dealer felt like paying. At the present time I know of a number who have overcome this condition by using the parcel post. Crates holding fifteen dozen are used. These can be shipped to a point in the second postal zone at very little cost. It is also true that the parcel post offers possibilities for direct selling to city customers. Eggs go just as safely through the mail as by the express company when they are properly packed.

With the matter of dressed poultry, much goes on the market that is not in proper condition. It is but the work of a couple of weeks to fatten chickens. When the time for taking off the surplus cockerels or the old hens arrives, the birds should be shut up in small coops so they cannot take much exercise, and fed all they will eat of a wet mash. Two weeks of stuffing with a rich ration is sufficient to put the birds in shape to bring the top-notch price.

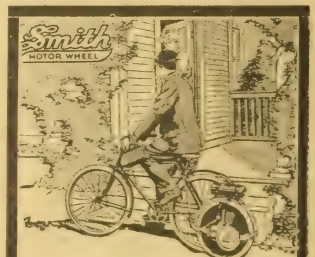
I have not mentioned what the farmers lose through the keeping of scrub stock. It costs no more to feed the pure-bred flock than the dunghill aggregation. Even if the nondescript bunch will lay as many eggs, which is doubtful, the other chances for profit are absent. The breeder of good hens will be able to sell many of his eggs during the hatching season for three or four times the usual price. This means a considerable profit. Again, breeding stock can often be disposed of to advantage. Thus it will be seen how the farmer who has a mongrel flock is losing money.

Pedigreed poultry is becoming more common with each season. Just as a good deal of the breeding in the past has been for feather it is now for utility qualities. Of course many farmers lack the time to do much of such work. However, everyone should secure foundation stock of a laying strain or introduce pedigreed blood by the purchase of male birds from such a flock. It costs very little more to keep the 200-egg hen than the "star boarder." For this reason, I say, give us better quality as well as more in quantity.—C. H. Chesley.

Use of Concrete in Tree Surgery

(Continued from Page 6)

fine and coarse material are always uncertain and indefinite. Usually the volume of fine material is in excess, often double the amount of coarse material, whereas in all concrete work the volume



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of coarse material should exceed that of fine.

Many people think that a mixture of one part of cement and six parts of unscreened bank-run material amounts to the same thing as one part of cement, two parts of sand and four parts of gravel. The difference is easily demonstrated by mixing one sack of cement with six cubic feet of "run-of-bank" and then mixing another sack of cement with two cubic feet of sand and four cubic feet of gravel. In the first case you will have six cubic feet of concrete; in the second, 4 1-2. In the first case, the use of improperly graded material results in weak, porous concrete because the amount of cement is not sufficient to coat or "carry" the large amount of fine sand with which it is mixed. In the second case, the result is dense concrete possessing strength and watertightness because all of the sand grains are coated with cement, all of the gravel is bound together by sand-cement mortar, and all of the air spaces are completely filled.

In the accompanying illustration, the results of screening are shown quite clearly. Notice how the sand exceeds the gravel in bulk. The screen frame, three feet wide and six feet long, is made of two-inch lumber. A piece of wire screen two and one-half by five feet is securely fastened upon the frame by using fence staples. The screen may be either three-eighth-inch slotted wire with cross wires from four to six inches apart, or woven wire having four meshes to the linear inch (16 to the square inch).

Legs should be fastened to the sides of the frame so that the screen will stand at an angle of about forty-five degrees. As the bank-run material is thrown from shovels directly against the screen, the gravel falls down in front and the sand passes through the screen.

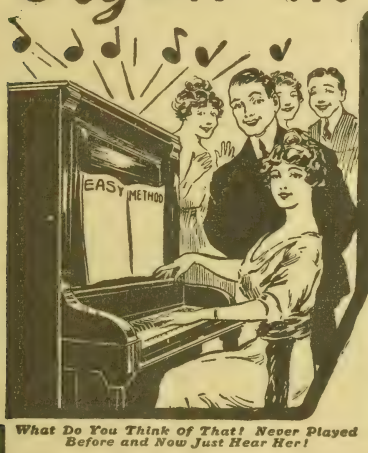
The large per cent of eggs that spoil start in incubation. This suggests that too many roosters are being allowed to run in the flock.

Pullets are marketed just before they begin to lay; after they have begun to lay they will command only the prices of fowls.

Indigestible feeds, such as bran and cob meal, should be kept away from the pig's trough.

The 300 pound pig at eight months is masterwork of the feeder.

Learn to Play Piano or Organ in One Evening!



What Do You Think Of That! Never Played Before and Now Just Hear Her!

You Can Learn to Play Piano or Organ in One Evening at Home By NEW METHOD. Sent Absolutely FREE on a Seven-Day Trial to Prove It. We Will Teach You to Play the Piano or Organ, and Will Not Ask You One Cent Until You Can Play.

FREE

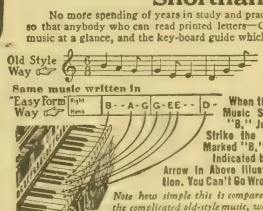
In this hurrying, busy twentieth century, people cannot afford to take several hours a day for several years in learning to play. They demand something easier, a shorter, simpler way—and this "Easy Form" Music Method is the result. Any person of ordinary intelligence can now sit right down and play, without any lessons, practice or special training. Just read the simple directions, turn to the selection you most fancy in the big volume of music, and **PLAY** it.

Any Child Can Play at Once

The "Easy Form" way is simplicity itself. No puzzling marks to study out, no mystic symbols and Chinese-looking characters to confuse you. With this new method you don't have to know one note from another, yet in a single evening you can play your favorite music with all the fingers of both hands, and play it well. It's so simple that it might justly be called

Shorthand In Music

No more spending of years in study and practice. Why? Because music has now been simplified so that anybody who can read printed letters—C-D-E-F-G-A-B-C—can read the new "Easy Form" music at a glance, and the key-board guide which is placed behind the keys shows you where to put the fingers of both hands on the right keys every time. No chance for failure, anyone can learn quickly. Young children and old people learn to play in a few hours and amaze and delight their friends.



Note how simple this is compared to the complicated old-style music, where a beginner couldn't even find the right key.

You don't have to take anybody's word for "Easy Form," either. We think the best way to prove it is to let you, **yourself**, be the judge. You **can't** doubt its value when you have learned to play by this method in a single evening. Therefore, we have decided to show **our** faith in "Easy Form" by sending the complete system—full instructions—100 pieces of standard music (all the favorites) and keyboard guide—upon receipt of the coupon, without asking for a cent of money.

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We have thousands of letters like the ones printed below, telling how quickly and easily people who didn't know one note from another learned to play by the "Easy Form" Music Method. It is so simple that there is no chance for mistake or failure—and the trial is absolutely FREE.

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I found your "Easy Form" just as you said. I think it is great and much **easier than I thought.** I do not doubt a firm when they will send their goods before they get their money.
E. R. BARNES, R. F. D. 2, San Marcos, Tex.

"Easy Form" In District School

I like the book and system very much. My little granddaughter, age 10 years old, plays for our district school. From the same book.
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I have had "Easy Form" **one week and can play any piece in the book, correctly.** I am very much pleased with it.
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Have had "Easy Form" four weeks and was out of town one week. I practice about fifteen minutes daily, and can play several pieces as good as my sister-in-law, who has taken lessons seven years.
MRS. ARTHUR I. VAN KLEEK,
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If I could not use the "Easy Form" method I would be ashamed to say so. It is very simple and easy to understand. I learned it in three hours. I am 75 years old, and never tried to play on the piano or organ, and did not know where middle C was until I got your easy method. Yes, anyone can learn to play by it.
REV. G. D. KING, Pastor, Christian Church, Porterville, Cal.

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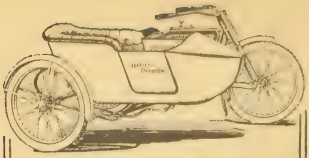
Name .....

Street and No. ..... or R. F. D. ..... Town ..... State .....

Do you play opposite note music? .....

How many white keys on your piano or organ? .....



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The HOUSEWIFE

KEEPING A MAID IN THE COUNTRY

I called on one of my country neighbors some time ago, and I found her in tears—"her maid was going to leave," had "given notice" that very day, and she was the fourth she had had that summer, and she didn't know why, but "none of them seemed satisfied, and would stay only a week or two at the longest," and so on.

As I have known this particular neighbor almost all of my life, and as she had confided her troubles on this particular question many times before, I felt justified in asking her a few pretty plain questions.

To sum up the whole situation I found this: That the maid was required to eat her meals in the kitchen on a table that was soiled from the preparation of the meal; that the meals themselves were little better than leavings, and all choice pieces of meat, fish or fowl were placed on the family platter by the mistress herself, whilst fat, gristle and bony pieces were left for the maid. Pie and cake were not allowed her although she could have a helping of rice or bread pudding when those things happened to be served for dessert.

Choice fruits, berries, preserves, jams and jellies were removed from the table by the mistress' own hands, and locked in the jam closet. "It didn't pay to pamper hired girls." Boys of the family were allowed to go in the kitchen and "jolly" the maids, and nine out of every ten don't like it. She had to do her laundry work and clean her own room on her afternoon off. She must give up church services on the Sabbath and prepare a "big" dinner for Sunday visitors.

Her room was a cubby hole, no more, no less, and it was over the kitchen. The ceilings on both sides were low, and there were two half-windows. The bed was a "cot" with rusty springs, and an old comfort for a mattress. Cotton blankets took the place of sheets. There was a filthy, straw pillow and a dirty quilt. A strip of dusty carpet was placed through the center of the room, and a foul kerosene lamp graced a soap box that had a newspaper for a cover. There was an old kitchen chair, and a mirror about 8 by 10 inches square. The room was stifling hot, and smelled of fried meat, boiled cabbage and various other kitchen odors. There was no washstand—she must perform her ablutions at the kitchen sink, and she received the munificent sum of $2.50 per week.

I don't blame that girl, or any other girl, for not staying in such a place. A farmer would not house a prize pig in such a place as that girl had to sleep and spend her leisure hours in, if she had any, which I very much doubt. I do not know whether the talk I gave my neighbor will have a good effect or not, but I know she could not help but see the disgust I felt for her method. My own maid is well paid, and is treated with respect by every member of my family. She, too, is required to take her meals on the kitchen table, but it isn't the work table. I purchased a small, round table for this very purpose, and it is placed in the cosiest corner of the kitchen, and a pot of geraniums are in bloom nearby. A white cloth and napkin are furnished. She has her own china and cutlery, and she has to eat part of the same food which I serve to my family or my guests.

Her room is small, but it is clean and airy. White muslin curtains are at the windows, and a pot of blooming flowers is on a stand by one of them. The bed is old, but it is painted white, the springs are good, and the mattress and bedding are clean and comfortable. The carpet is a woven rag one, but it is bright and clean. We cannot afford a

PROTECT THE POULTRY.

Every poultry raiser should, if possible, raise several times as many fowls as he knows he will require for the following year—this gives him a better chance for selection in the fall. Greatest care should be taken in the prevention of disease. The following directions are safe and reliable for keeping fowls sturdy, to better enable them to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes and Worms. Thoroughly mix one teaspoonful Merry War Lye in two gallons of drinking water. Or it may be mixed with dry feed or mash by thoroughly dissolving one teaspoonful of Merry War Lye in one pint of water, which should then be stirred into two gallons of dry feed or mash. Feed regularly. Poultry raisers who have tried this simple and inexpensive treatment are enthusiastic in its praise.

WHITE FLOATING SOAP.

You will never know how great is the satisfaction of using a mild, home made, white soap that floats, until you have tried it. Easy to make, too: just put two quarts melted grease into a kettle; then stir one can of Merry War Lye which has previously been dissolved in a quart of hot water and allowed to cool until luke warm, into the grease; add immediately one cup of ammonia and two tablespoonfuls of borax dissolved in half cup of warm water. Stir five minutes; beat the warm soap until it is too stiff to be handled, and put away to cool. Do not use until four weeks old. (All soap improves with age). This formula which is so simple that anyone can follow it makes, at small cost, a batch of excellent floating soap which will give the greatest satisfaction in use.

separate bath, but she has a nice wash-stand, bowl and pitcher, and plenty of clean towels in her room. Good pictures are on the walls (inexpensive prints), but good subjects just the same. A dresser with a good mirror, a rocker, a closet for her dresses and room for her trunk is provided. She is allowed Sunday afternoon and evening and Thursday afternoon and evening each week, to herself. We make all preparation for Sunday dinner on Saturday.

We allow her to read our books and magazines, and she is allowed to ride in the carriage with the family occasionally, and Thursday afternons, if she desires, she is allowed the use of the pony and phaeton to go to town or visiting. We have had her three years and we are not the least bit afraid of her "giving notice." Her predecessor was with us seven years, and only left us to marry and go to a home of her own. She is now on my calling list.

Somehow, I cannot help feeling that my way pays best. My neighbor is better off, financially, than I, and there is no excuse whatever for her treatment of her maids. I haven't overdrawn the picture in the least way—in fact, I believe I haven't made it quite strong enough.

KNOW WHY

That many housekeepers could make better bread if they knew the reason for using certain ingredients and for subjecting them to definite processes, is the belief of Miss Oberlin of the Colorado Agricultural College. Some housekeepers believe that salt hastens the growth of the yeast plants and sugar retards it. This is a mistaken idea, for salt is used only to improve the flavor of the bread, while sugar is food for the yeast plant, and consequently its addition makes the mixture light in a shorter time than if it were omitted.

Other housekeepers report that water from certain deep wells kills the yeast, and that boiling the water is not a remedy. Investigations prove that this water contains considerable sodium, one of the constituents of common salt.

It is possible to tell something about the condition of dry yeast before mixing it with the other ingredients. Put a yeast cake into one-half cup of lukewarm water. At the end of an hour if it has crumbled and settled to the bottom of the cup it will not make good bread; but if it has puffed up and cracked on top it is in good condition.

If the liquid used is water it should be boiled and cooled to lukewarm before adding the yeast, and if milk is used it should be scalded, otherwise some organism in the liquid might interfere with the action of the yeast.

DUTCH POTATO SALAD

Use the cold boiled potatoes left over from dinner. Cut them in cubes and add onion to suit your taste. Fry several slices of bacon add about same amount of vinegar as drippings, allow to boil up, pour over potatoes, add salt to taste and serve.—D. C. C., Nebraska.

APRICOT AND PINEAPPLE BUTTER

Three pounds of dried apricots, soaked over night with enough water to cover well. Put through your food chopper one large can of pineapple, add apricots and sugar to sweeten well. When cooked to a butter will make between three and four quarts.—D. C. C., Nebraska.

Dainty Summer Clothes at bargain prices

Do you enjoy the **"Standard's"** low clothing costs? Do you, too, know the **genuine satisfaction** to be had in shopping at the **"Standard,"** and sharing the season's best money-saving bargains? You need **never** again deny yourself the dainty, charming clothes so dear to every woman's heart. THE FREE **"Standard" Bargain Bulletins** bring you, every two months, the cream of the beautiful new styles for every member of your family. And, about the small cost:—Judge for yourself. Order the bargains below; if they are not the biggest values you ever saw and if they do not please you in every respect, return them and we will immediately refund your money and pay all transportation charges. But, Madam, you **WILL** be delighted and you'll be convinced that **it pays to shop at the "Standard."**

The New Summer Bulletin is Now Ready!

It is the LATEST style bulletin and a welcome "money-saver." **Don't buy anything until you see it.** Clip and mail coupon (below) at once. Remember, you don't bind yourself in any way but it will enable you to buy the lovely new clothes at a remarkably small cost. Mail coupon for postal card) NOW.—AT ONCE. Remember the Bulletins are **FREE**

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Girl's Flowered Crepe dress 99c

R99M—Charming dress for girls 7 to 15 yrs. Stylishly made of the popular **serviceable** quality **Flowered Crepe**, in pretty blue or pink patterns. The broad front panel hangs effectively beyond a black velvet belt and a dressy trimming is provided in the lace-edged embroidery collar and revers. Smart triple-ruffle skirt. Fine $1.50 value, *postpaid* in the U. S. **99c**

2NDD179M $1.79 VOILE

2E49M 49c

Sizes 38 to 44 inch lengths and measures two yards at bottom

2E49M—An exceptional value offered here for your special attention. This dressy petticoat of good, serviceable Cambric, correctly made with fitted gores and beautiful embroidery flounce. Special, *postpaid* in the U. S. **49c**

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2NDD179M—A lovely, delightfully dainty dress. Made of beautiful, serviceable quality **Striped Voile** in stylish black-and-white, blue and-white or lavender-and-white stripes. Bodice displays an odd vest, smartly matched messaline trimmings and buttons and a pretty white organdie "roll" collar with neatly scalloped edge. Gracefully wide skirt with a stylish yoke and black velvet ribbon forms belt and sash. Front closing. (*Women's sizes 34 to 44 Bust. Misses' sizes 14 to 18 years.*) Our "half-price," *postpaid* in U.S. **$1.79**

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The Movable Hog House

An Economically Constructed Convenience Which Has Proved Its Worth in Many Instances

By G. Harry Day

EXCLUDING personal labor it cost me $7.25 to build a portable house to accommodate about five mature hogs or fifteen or twenty shoats. If I had used old lumber I could have materially lessened the expense of the structure.

As it was I used pine which I purchased from a local sawmill at $10.00 per thousand feet. Of course I allowed this lumber to dry out thoroughly in the pile before I used it. In building an A-shaped, portable hog-house anyone with average jack-leg carpenter ability can turn out a seemly job. At agricultural college I was first impressed with the efficiency of the portable house. Since then I have seen it in use on leading hog farms.

At the farming school I learned that this house provides one of the most sanitary and natural mediums for the shelter of swine, that it is cheap as well as easy to build, that it is a first aid to the renter or share tenant, who cannot afford to invest in permanent structures on his leased farm, and who still desires to furnish the essential shelter for his hogs. He can build a portable house and carry it with him from farm to farm.

The A-shaped house is particularly desirable on the general farm, because it contains a minimum of waste space. It is useful on any farm. The number of houses of this character that are used will vary with the size of the herd. The movable house makes for sanitation in the herd which is impossible where the swine are housed on the same spot, fed in the same place year in and year out. Furthermore, where the animals are kept in small groups in separate houses, rather than centering all the hogs in one building, it is easier to prevent disease from entering the herd.

The system of allotting one A-shaped house to each sow and her litter of pigs which is generally practiced on several corn-belt swine farms, is to be recommended. It works out better in practice than it sizes up in print. It is only fair to mention one disadvantage of the A-shaped house which I have already noticed. It is difficult to clean out a house of this type. To enter the shelter a man has to get down on all fours. However, I believe that this defect could be easily remedied by the use of a hinged section in the roof which could be thrown back when the attendant desired to clean out the house.

In constructing my movable hog house I began at the bottom and worked up. I first prepared three runners, two-by-six inches by eight feet in length, which I bevelled at one end. I laid those runners flatside down and spiked them to the stringers for the floor, six in number, which were two-by-four inches by seven feet, eight inches in size. At opposite ends of these joist I nailed plank two-by-eight inches by nine feet four inches so that they projected four inches above the level of the joist and seven inches over at the ends. These pieces of two-by-eight formed the plates to which I nailed the rafter and roof boards. In addition to strengthening the house they also increased the floor space and capacity of the structure.

A wooden floor is advisable in one of these movable houses, inasmuch as it prevents the hogs from rooting in the dust or wallowing in the filth that usually is found in the house with a dirt floor. I made the floor of inch stuff, using one-by-six, sixteens which I cut in the middle to make two eight-foot floor boards. I next cut the rafters, which were seven feet five inches long, and notched them to fit on the floor plate at one end and to bind the nine-foot ridgepole at the top of the house. Midway between the floor and ridge I placed side and end braces in the frame of the building, to which the sheeting was nailed. The rafters were of just the right length, so that

SOMETHING NEW-DIFFERENT

Readers listen sharp, don't miss! Investigate—the best thing ever happened. Astonishing, yet true. INGENIOUS OHIOAN INVENTS A NEW DEVICE THAT CLEANS FAMILY WASHING IN 30 TO 50 MINUTES, WHILE YOU REST.

NO RUBBING, NO CHEMICALS, NO MOTOR. NO SUCH DEVICE SOLD IN STORES—DIFFERENT FROM ANYTHING YOU HAVE SEEN. Nothing else like it—great seller—enormous demand. Customers delighted. R. O. Cowan, N. Y., placed 13 in 6 hours, (profit $39.00). Mrs. J. Brown, Pa., sold 10 in 3 days. (profit $30.00). You can do the same.

Miracles don't happen now, but listen—wash day troubles wiped out. Goodbye to wash boards, washing machines, troubles, etc. Their day is passed. Easy Way of cleaning clothes is here to bless our dear women. Invention that killed wash day called "Easy Way." Has awful appetite for dirt, goes after all the dirt in all clothes, at same time. Small, but mighty—silent, but powerful. SEE HOW SIMPLE, EASY, DIFFERENT. Operated on stove—water inside, then soap, then clothes—move knob occasionally. Dirt lets go as hot water, suds, scalding steam and vapor begin movements. 8 to 10 minutes—clothes clean—rinse, dry, that's all! Next batch same operation—same water—30 to 60 minutes family washing clean. You just wait between batches—child can do it. Laundries clean clothes without rubbing—the "Easy Way" does the same at your home. No wood, all metal, sanitary, should last lifetime, light, easily handled. Cleans laces, white goods, bed clothes, woolens, colored clothes, etc., without injury—no rubbing—no chemicals—Women's God-send. Saves drudgery, clothes, labor, fuel, health and looks. No experiment—going on daily—you can do it. Customers everywhere delighted and praise it.

LAURETTA MITCHELL, O., writes: "Done big washing with 'Easy Way' in 45 minutes. Sold 3 already." J. W. MEYERS, Ga., orders 12 more, says: "'Easy Way' greatest invention for womanhood, forever abolishing miserable wash day." F. E. POST, Pa., "Done two weeks' washing in 45 minutes. Clothes cleaned without rubbing." J. H. BARRETT, of Ark., after ordering 38, says: "Grandest invention ever heard of."

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SAMPLE TO AGENTS—SALESMEN—MEN—WOMEN—all or spare time—at home or traveling—showing—taking orders—appointing agents—"Easy Way" new. Wonderful seller—agent reaping harvest of dollars. When operated, people stop, look. 12 see, 10 buy. C. O. Garrett, of Ohio, showed 7 families, sold 6, (profit $18.00). A. B. Verett of La., sold 8 one day, (profit $24.00). Mrs. Garrish ordered sample—then dozen—then 100, (profit over $300). **Write for FREE Sample Proposition, 1915 Offer, etc. Costs nothing to investigate. Write Today. Circulars, Testimonials, FREE.**

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sixteen-foot boards would make two roof pieces.

At either end of the house I placed a panel door two feet by two feet six inches in dimension. Above each door I made a window nine by fourteen inches. During extremely warm weather I open both the doors and windows and as a result of the complete circulation of air that results I am able to keep the house fairly cool, even in the hottest weather. I also located a small ventilator in the top of the roof by cutting a couple of roof boards four inches too short and by overlapping this opening with boards blocked up an inch above the roof proper. This ventilator is a sort of cap covering a hole in the center and top of the A-shaped roof. By means of this ventilator and the opening of the doors and windows, as the need for so doing arises, the house can be maintained at a comfortable temperature without exposing the animals to direct drafts.

I used prepared roofing paper with which to cover the roof. A tight roof is essential, as it makes for the increased comfort of the swine. Well-being in the herd means increased thrift and the ability to realize the maximum nutrition from a given amount of food consumed. In order to facilitate moving the house from place to place I placed two eyebolts through the two-by-four floor joist at the front end of the house, so that a single tree could be fastened to them by means of a chain in order that a horse might be hitched to the building to haul it about. Where the house is well built, according to the method I followed, the completed structure will weigh over a half ton.

The portable feature is the factor that has popularized the A-shaped house, as well as the lack of waste floor space. In addition, with its sloping roof that directly joins the floor, a building of this character provides plenty of room for the pigs to snuggle together in the corners without danger of being squeezed to death by the sow as she rolls over or moves about. Personally I have found that the A-shaped portable house is very efficient, where one of these structures is apportioned to each sow and her litter.

Even though one is not favorably inclined towards the A-shaped house a movable hog house is too useful around the farm to be discarded on account of form. Build a shed-roof house and equip it with runners and you will have a satisfactory movable shelter. I used some old fence boards, pine poles and scantlings in making a rush order house of this type. I provided the shelter with a straw roof, as the quality of the lumber did not make it practical to furnish a better roof. This house is light, warm, and, with a floor space five by six feet, it provides ample accommodation for a sow and ten pigs. The house cost me a few hours work, some old lumber and a couple of pounds of nails.

Material necessary to build an A-shaped hog house to accommodate five mature hogs or twenty shoats: 9 pieces 1x12-16; 5 pieces 1x12-14; 11 pieces O. G. batten; 1 piece 2x4-10; 2 pieces 2x8-10; 7 pieces 2x4-16; 3 pieces 2x6-8; 4 pieces 1x12-16.

When the price is less, one-by-six-inch stuff may be substituted for one-by-twelve-inch, by using twice as many pieces.

MINERAL NUTRIENTS AND PLANT GROWTH

When fertilizers are added to a soil, it is usually with the view of giving back to the soil the mineral nutrients removed by crop plants. The chief nutrients are nitrogen, phosphoric acid and potash. A soil lacking in plant food is usually deficient in either nitrogen, phosphoric acid, or potash. It is true, however, that fertilizers applied to a soil, do more than restore plant food, and moreover, they are frequently used to make up for some deficiency other than nitrogen, phosphoric acid and potash.

The different fertilizers vary in composition. Nitrogen is the principal ingredient in sodium nitrate, cotton-seed meal, dried blood and ammonium sulphate. Phosphoric acid is the principal ingredient in basic slag, precipitated bone and dissolved phosphate rock. Potash is the chief mineral nutrient in carbonate of potash, muriate of potash, and sulphate of potash. Bone manures and slaughter house tankage contain both nitrogen and phosphoric acid as the principal nutrients. The nitrogenous superphosphates and stable manures carry large quantities of nitrogen, phosphoric acid and potash.—W. W. Robbins, Col. Ag. Coll.

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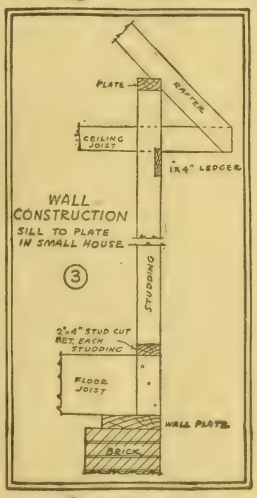

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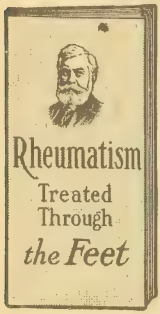

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Send all orders for patterns to FARM NEWS, Pattern Department, Springfield, Ohio.

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No. 7218—Ladies' Eton Jacket—It fastens with a single button in the front and can be made with either long or short sleeves. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

No. 7212—Ladies' Dress—This dress closes at the front and can be made with or without the yoke. The skirt is cut in two gores. Pattern cut in sizes 34 to 46 inches bust measure. Price, 10 cents.

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No. 7201—Boys' Russian Suit—The suit closes at the left side of the front and can be made with either straight or bloomer trousers. Pattern cut in sizes 2, 4 and 6 years. Price, 10 cents.

No. 7190—Ladies' House Dress—The dress has a three-gored skirt which can be made with either the high or regulation waistline. Pattern provides for a dust cap. Pattern cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

No. 7230—Boys' Middy Dress—This dress can be made with or without the belt. The sleeves can be finished with tucks or with cuffs. Pattern also provides for a pair of straight trousers. Pattern cut in sizes 2 and 4 years. Price, 10 cents.

No. 7193—Ladies' Skirt—The skirt is cut in four gores and is joined to a yoke. The high or regulation waistline may be used. Pattern is cut in sizes 22 to 32 inches waist measure. Price, 10 cents.

No. 7225—Children's Rompers—The rompers close at the back and can be made with either the long or short sleeves and round or square neck. Pattern is cut in sizes 1, 2 and 3 years. Price, 10 cents.

No. 7219—Misses' and Small Women's Dress—The dress closes at the front and can be made with either the long or short sleeves. The three gored skirt can be made with high or regulation waistline. Pattern is cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

Money in Basket Willows

By H. L. Spooner.

ON ACCOUNT of the European war, it now looks as though the United States would have to grow its own supply of basket willows, and this will be a benefit to this country, as it has been demonstrated that basket willows of the same kind and quality as the imported varieties can be grown here at a very good profit.

Basket willows originated in Europe, from whence they have been carried to other temperate climates. They are grown as far north as Norway and Sweden, and have been naturalized in portions of North and South America, Australia, and New Zealand. But the countries that are most noted for production are Germany, Holland, France, and Belgium, and from these countries the United States imports annually several thousand tons of rods.

There are about ninety-five varieties of basket willows grown commercially in Europe. After many tests in this country, the growers have confined themselves to four varieties—the purple willow, the American green willow, Lemley willow, and Patent Lemley willow.

The purple willow is the most widely grown, as it readily adapts itself to a great variety of climatic and soil conditions, and produces rods suitable for the finest wicker work. The American green willow is the fastest grower of all, and produces a rod which is almost pure white when peeled. The Lemley is used a great deal on poorer soils.

The most suitable soil is a deep, rich, sandy loam that is permanently moist. It must not be wet however, and therefore it should be drained if necessary. A soil that will grow a good crop of wheat will grow good basket willows. Regions of a mild and humid atmosphere are best, but they do exceedingly well in any temperate climate.

The land should be plowed as deep as possible in the fall before the willows are to be planted the following spring. This is to bury the weed seeds as deeply as possible, so they cannot spring up during the following season. Twelve to eighteen inches, depending on the kind of soil, is the usual depth. If the area is planted to potatoes the year before, it will help a great deal.

The cuttings should be eight or ten inches long. They are planted in the spring as soon as the frost is out of the ground. They should be pushed vertically into the ground to within one inch of the top. From nine to twelve inches apart in the row, and two and one-half feet between rows is the usual spacing followed. The further apart they are planted the more horse cultivation can be used, but the rods are liable to be curved at the base, and to become thicker and therefore less valuable.

Weeds must be kept out from the start. The first two years will be the worst. A small horse cultivator can be used, if care is taken not to go too close or too deep, as this would injure the roots. The hoe must be used unceasingly the first two years. After this the dense shade of the willows will choke the weeds, so that but little cultivation will be necessary.

The rods are harvested in the winter, usually beginning the middle of January, but the harvesting must be completed before the sap commences to rise. The young shoots are cut with a short hooked knife as close to the stump as possible. The rods are then tied into bundles and set from four to six inches deep in a pit of running water. They are left in the pit until the sap rises, when the bark is easily removed. A special tool is used for stripping the bark. The rods are then graded into classes according to height and quality, after which they are bundled up and prepared for market.

The price of the rods depends upon the quality and size. The market price for green unpeeled rods, cut and delivered at the railroad, ranges from $10 to $30 a ton. From four to eight or sometimes ten tons may be grown on an acre. The crop from an average acre should bring $150, of which one-half should be profit. At present there are no signs of an over-production of basket willows in this country. It is estimated that more than 5000 acres may be planted before the present demand for rods is satisfied. As the uses to which willows may be put are increasing enormously, in a few years this estimate can be easily doubled.

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ALADDIN QUALITY has set a new standard for lumber quality—is raising the old-time lumber standards of quality to a new plane. The ALADDIN Dollar-a-Knot guarantee is the plainest and strongest guarantee ever offered the home builder. ALADDIN Houses are not made by a trust or combine—*we do not ask you to buy lumber according to any mysterious Association grading rules.* A guarantee of simply a Dollar a Knot—anyone knows what a knot looks like. No other lumberman in the world has had the courage to equal the ALADDIN Dollar-a-Knot Guarantee. But *you* can secure knotless lumber—*at a distinct saving in price*, too—in an *ALADDIN* House.

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ALADDIN Houses are Complete You get material absolutely guaranteed to be sufficient for the completion of your house, as follows: Sills, cut to fit; joists, cut to fit; studding, cut to fit; building paper; subfloor, cut to fit; rafters, cut to fit; outside finish, cut to fit; porch columns, baluster, rail, flooring and framework, cut to fit; lath and plaster or plaster board, inside finish, doors, casings, base board, windows, sash, glass, nails of all sizes, locks, hinges, tin flashing, paints, oils, varnishes, stains, putty and shellac, with complete drawings, illustrations and instructions for erection—*The Complete House*—also barns, poultry houses, hog houses and other modern farm buildings. The big ALADDIN Catalog No. 670 tells all the interesting facts.

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Do You Want This Pony?

Major Will be Given to Some Lucky Boy or Girl

Farm and Fireside's Annual Spring Pony Offer is now open to all readers of Farm News. Do you want to win Major, the pony shown in this picture? He is a beautiful Shetland pony with the fluffiest, silkiest mane and tail in the world. Major can travel faster than lots of horses and is as gentle and playful as a kitten. Don't let anyone persuade you that you can't win Major, because the Pony Man of *Farm and Fireside* has already given away more than 100 Shetland ponies. You can be that lucky boy or girl to win him if you try hard enough. Of all fine ponies given away by *Farm and Fireside* Major is easily the best, and excites attention wherever he goes.

Buggy and Harness and Complete Outfit Too

When you win Major, the Pony Man will send you in addition his beautiful buggy and nickel-plated harness. You couldn't have a more handsome outfit if you were a millionaire. The buggy will have a nice whip-cord seat and cushions and nickel trimmings. The harness is a jim dandy too, of the finest leather and just fits Major. What fun it would be to go driving every day this summer! How you would enjoy going out for a gallop every morning or taking all your boy and girl friends for a drive! We are going to send Major together with his handsome outfit right to the very door of the child who wins him, and every cent of expense will be paid by *Farm and Fireside*.

Clip the Coupon and Send in Your Name To-day

The thing for you to do right away is to send your name and address to the Pony Man, so he can tell you how to become a member of the Pony Club and a Sure Winner. Anyone will tell you that the Pony Man can afford to give away ponies to deserving boys and girls in order to get more people in your neighborhood acquainted with *Farm and Fireside*, the National Farm Paper. This paper is over 35 years old and has just dozens of friends in your community.

Leonard Foreman, Osceola, Pa., and Bonny

Irma Musante, New London, Conn., and Trixie

Tom Clark Pennington and Spot

Following are the names of a few of the boys and girls who have already won Farm and Fireside ponies:

Hustler, won by Gladys Stone, Duquesne, Pa.
Ginger, won by Hannah Swain, Huntington, W. Va.
Little Joe, won by John Korp, Farrel, Pa.
Dandy, won by Delmont Whalen, Burgettstown, Pa.
Duke, won by Lurline Smith, Santa Rita, N. Mex.
Colonel, won by John B. Cutler, Sharpsburg, Pa.
Comrade, won by Hugh Metzgar, New Philadelphia, Ohio
Daisy, won by John Kielen, Madison, Minn.
Dick, won by Daryl Porterfield, Emlenton, Pa.
Beauty, won by Wilbur Corey, Auburn, New York
Jack, won by Virginia Jamison, Iola, Kansas
Wuzzy, won by Marguerite Lawson, Hopkinsville, Pa.

How to Win Major

Simply write your name and address on any piece of paper and send it to the Pony Man, *Farm and Fireside*, Springfield, Ohio, or fill out this coupon and send it along. The Pony Man will be glad to send you a Membership Certificate together with a picture of Major and the other ponies and prizes, and everything necessary to start right in and become a pony-winner. Send your name now.

Prize for You Sure

You are sure of winning a handsome prize if you become a member of the *Farm and Fireside* Pony Club and you will not have to invest a single cent of your own money. *Farm and Fireside* is one of the oldest and best farm papers. You will be surprised how easy it is to win one of the *Farm and Fireside* ponies.

Send in Your Name To-day

Mail This Pony Club Coupon To-day

F. N.

The Pony Man, Farm and Fireside, Springfield, Ohio:

Please send me by return mail Membership Certificate to your Pony Club. I want to join and be a member and want to win a pony. I want to win Major and will try to be a member of the Club. All I can and be a good

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BOBBIE LEARNS THAT HIS FATHER HAS THREE FARMS IN ONE

Bobbie was a wholesome type of the American youngster—the kind folks call a "regular boy." If in any sense he was stronger than the average lad of twelve it was chiefly due to his home having provided him with better than average opportunities to grow and develop.

"Is farming a game, Dad?"

"Sure thing. And there's a big Department in Washington filled with soil experts, soil chemists and bacteriologists, whose business it is to teach folks the 'underlyin' principles of the game of farmin'. They also furnish ideas to fit the game, whether it's played in the cotton belt or in the corn belt, down East or out West. But this expert advice, like other things we get for nothin', ain't appreciated. Although farmin' is the most important business in the world, seein' that the food supply of our nation depends upon it, we insist on playin' the game in the same old happy-go-lucky way our fathers did."

"By the way, speakin' of teachin' agriculture, what did the McCormick lad think of our alfalfa field when you showed it to him?"

"It knocked him cold. Fatty is thick-headed, but I guess I got it through his hair how we planted it and the good it is going to do to our farm. But, Gee! he's a bonehead."

"Tut, tut, Robert. Remember that bone is a great fertilizer and it may help to balance the brain food in Fatty's head. Give him time. God gives each and all of us a fertile brain. The wise man is simply one who has cultivated his gray matter to a point where his brain foods are always available. Fatty is all right. You must tell him about the red clover we're goin' to sow in our corn when we get through cultivatin' it. McCormick's farm needs clover. In fact, every acre on every farm in the corn belt should be seeded now and then to clover. For all purposes it is the best soil renovator and humus maker of any of the legumes, and it fits best in crop rotations. It's no wonder that we're told that clover is the 'foundation stone of American agriculture."

"Will we put the same kind of germs on our clover seed that we used on our alfalfa?" asked Bobbie.

"No, Jim Blakeley, and he's the best seedsman in these parts, tells me that every legume must be inoculated with a special kind of germ. For instance, the alfalfa germs are no good on red clover, vetch, soy—"

"Gee whiz! You say that there's nearly 30 kinds of legumes. You'd think Blakeley would go 'bug' if he has to sell 30 kinds of germs!"

"I guess he would," laughed his father. "But you see, the seedsman sends only for the kind of germ needed in his particular territory. Here in the corn belt it's principally alfalfa, clover, vetch, peas, beans and soy beans. As far north as southern Wisconsin cowpeas are grown more and more.

At this point, Sport, who was not half so interested in bugs as he was in fleas, jumped up with a glad bark to welcome Mrs. Shattuck.

"Lay down, Sport!" cried Mary. "Do you want to spoil my best Sunday-go-to-meetin' dress?"

"Come on, Ma," cried Bob.

"Yes, sit down in this rocker, Mary," suggested William. "It's half an hour before church time and I want your opinion on an idea that come to me just now when Bob and me were talkin' about clover.

"Every farmer has three farms in one. Farm No. 1 is the top-soil, Farm No. 2 is the subsoil, and Farm No. 3 is the air that rests on every acre of land and circulates through all soil. The purpose of Farm No. 2 and No. 3 is to feed Farm No. 1 and make it produce greater yields.

"Farm No. 1, as a usual thing, is a thin, very much overworked farm. Year after year we expect it to grow all of our cash crops—all our corn, cotton, wheat, oats, rye, barley, etc.—yet we make little effort to keep it supplied with plant foods. When we starve a cow we know it won't produce any milk. But we starve our Farm No. 1

WE WILL GIVE
This GOLD PLATED EMBOSSED LOCKET and 22-inch CHAIN—Locket opens to hold two pictures and lined with a perfect simulated DIAMOND and these 4 GOLD PLATED RINGS Absolutely FREE to anyone that will sell one 12 pieces of jewelry at 10 Cents each and return us the $1.20. WE TRUST YOU and take back all not sold. Address
C. D. Dale Mfg. Co.
Providence, R. I.

HOWARD BICYCLE
Something new in a bicycle you cannot afford to buy until you get our 1916 catalog. Make some extra money, be a rider agent, send for our free proposition. Write to-day.
HOWARD CYCLE CO.
Dept. K. Trenton, N. J.

MAKE YOUR BIKE A MOTORCYCLE
at a small cost by using our Attachable outfit, FITS ANY BICYCLE. Easily attached. No special tools required. Write today for bargain list and free book FREE BOOK describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, $35 and up.
SHAW MANUFACTURING CO.
Dept. 76, Galesburg, Kansas.

FREE
Stem wind and set watch, guaranteed 5 years, for selling 20 art and religious pictures or 20 pkgs. post cards at 10c each. Order your choice.
GATES MFG. CO. Dept. 409 Chicago

COLUMBIA

FOR the youngsters' frolic, for the entertainment of your friends, for the dancing hour—no other *one* thing gives so much real pleasure and entertainment as the Columbia Grafonola.

Distinguished for its superb *tone-quality*, you can tell the genuine Columbia by its tone-control *leaves* which give the exclusively Columbia control of *tone-volume*.

There are more than 8500 Columbia dealers, waiting to demonstrate the Grafonola. If there is no Columbia dealer near you—write and tell us. We will send you a catalogue and tell you where your nearest dealer is.

COLUMBIA GRAPHOPHONE CO.
Box C602, Woolworth Bldg., New York.
Toronto: 365-367 Sorauren Ave. Prices in Canada plus duty.
Dealers wanted where we are not actively represented. Write for particulars.

COLUMBIA GRAFONOLA FAVORITE $50
Other models $17.50 to $500—Easy Terms.

GRAFONOLA

Detroiter "8"

Taking the Country by Storm

WE PREFER to let the car tell its own story, in the hands of users. Read what owners, experts, dealers, are saying of the Detroiter Eight.

A Philadelphia Distributor

"That trip just lasted about three hours, as against the contemplated time of about twenty minutes, and when we finally returned, there was not a hill within 15 miles of Philadelphia, including all those that in most cases are low gear hills, but which had been conquered by the DETROITER EIGHT, with high gear lever never touched from start to finish."

A Knoxville Owner

"I never saw a car of such wonderful efficiency and of such pulling quality and smoothness."

A Texas Driver

"The consensus of opinion of about a hundred friends who have ridden with me this month is that the Detroiter Eight is the most powerful slow or fast pulling motor car in the world, and its riding qualities are equal to any $5000 car on the market."

A New England Distributor

"The performance of the car was so perfect that it took people right off their feet. We did everything that was ever done by any car at any price, and then some, and we are safe in saying that the Detroiter Eight is the MOST-TALKED-OF car in New England today."

A Lover of Speed

"I will venture to say that the inhabitants living along the sides of these hills never saw such a dust raised by a car ascending, since automobiles were invented."

A California Owner

"It was wonderful and we are convinced that this car will do things that no other car in the world will do."

These are only a very few extracts. Scores of unsolicited letters like these are coming in—every mail swells the proof of Detroiter supremacy.

$1295

Eight-Cylinder

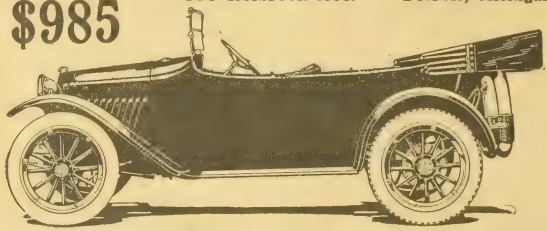
Famous Four

$985

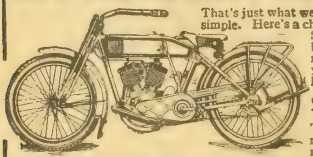
Don't you want full particulars by return mail about this wonderful car? Drop us a post card for catalog of Model D

The BRIGGS-DETROITER CO.

630 Holbrook Ave. Detroit, Michigan



THIS MOTORCYCLE GIVEN AWAY As a Prize FREE



That's just what we mean—given free as a prize. Our plan is easy and simple. Here's a chance to get a motorcycle with the least possible effort. Send us your name for our free plan. You'll scarcely believe us when we tell you how easy it is to get this machine. An easy plan. No fake puzzles to work. If you will give us just a little of your spare time, you can have this machine; but be sure and

Send Your Name Today

This is a genuine twin-cylinder—two-speed, latest model "Indian" machine, the latest and last word in motorcycle making. The machine is a brand new 1915 model and will be shipped direct from the factory so as to insure that you get only the latest and best. Don't fail to send us your name. Our plan is to advertise our business, and if you will help us you can have the machine. It will not require a solid week of your time to get this machine worth $250.00. Isn't that worth a try? Where else can you earn a $250.00 motorcycle in a week? Be quick—that's the main thing—and address D. BRYDON, MANAGER, 215 S. WITTENBERG AVE., SPRINGFIELD, OHIO

When writing to advertisers please mention Farm News

and expect it to keep right on producin' crops like it did in its virgin days, when it was full of mineral plant foods and rich organic matter. This thin, ill-fed farm must supply all the food for the shallow-rooted crops. It is the only feedin' ground they've got.

Farm No. 2 is the deep sub-soil, rich in mineral plant food. Farmers know it is valuable, for they often use dynamite or expensive subsoil plows to bring its foods up into the feedin' ground of Farm No. 1, so that the short-rooted cash crops may feed and fatten on 'em. But we are learnin' that the best plows for Farm No. 2 are the deep penetratin' roots of alfalfa, clover and other inoculated legumes. These legume plows open up and air the subsoil and they drink heavy of its moisture, which is always more or less rich in available phosphoric acid and potash. These foods are carried up into the plant and become a part of its growth. Therefore, when we plow under a legume crop we put back into Farm No. 1 a rich mass of vegetable matter that will help its physical condition and give it more humus; and we also give it an added supply of phosphorus and potash. This is the logical and profitable way to make Farm No. 2 feed the cash-crop farm.

"Farm No. 3 is the air, or nitrogen farm, that rests upon every acre of land. This is another source of plant food, for it is four-fifths nitrogen. Not so long ago there wasn't a farmer on earth who knew how to take nitrogen from his air farm and put it in his top-soil farm, where shallow feeders, like wheat, could feed on it. But it is a secret no longer. We all know—or we ought to know—that when we plant a legume, such as clover or alfalfa, and cover the seed with the proper germs, the germs will feed the plant with nitrogen which they take from the air farm. And now what follows? The legume plants that would have died off without the germs in their roots grow and prosper and very soon they are doin' what no other farm plant can do, they are gettin' their supply of food from all three farms at once, the top-soil, the subsoil and the air! In due time the plants grow into a bumper crop containin' so much nitrogen that its feed and manure values are greater than anything else we can grow. Did all this nitrogen come out of our thin, hungry top-soil farm? No; the germs got it from their air farm.

"What happens should we plow under this legume crop? Won't all of its nitrogen be put right where it is needed, in the top-soil? And, in consequence won't the next wheat, oat, or corn crop be bigger? You know it will, for the top-soil is not only made rich in nitrogen, but it has been fed a vast quantity of vegetable matter which quickly decays into plant-feedin', soil-buildin' humus."

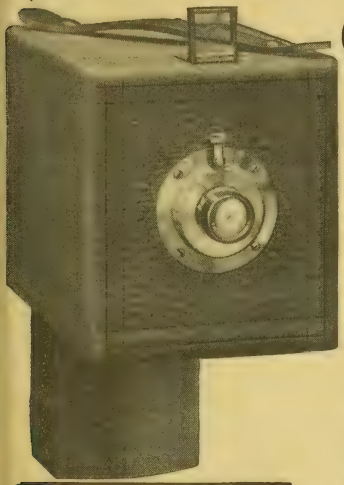
"What happens," continued William, "when we plow up only the roots and stubble of the legume? We then add about one-third of the entire nitrogen to the soil. If we feed the legume on the farm and return all the manure to the land, we are then workin' our three farms in one to their highest capacity. We are producin' farm products at practically no expense of fertility. To sum up, every farmer should make Farm No. 2 and Farm No. 3 feed and fertilize Farm No. 1, and the only way to do this is to grow legumes with legume germs in their roots. And now tell me, Mary, what do you think of my 'idea'?"

"It's fine, William, fine, so original!"

Bobbie, who thought his father the greatest man in America, living or dead, cried, "Great, Daddy, it's great!"

"I suppose you are saving up for a rainy day?" "No," replied Farmer Corntossel. "Out this way we pray for rain. I'm saving up for a drouth."

No Money In Advance



This Marvelous CAMERA On FREE TRIAL!

Only 10,000 of these marvelous, instantaneous picture-taking and making cameras to be sent out absolutely on approval without a penny in advance just to prove that it is the most wonderful invention—the camera sensation of the age. So **you** must send for it **quick!** Just think of it—the new Mandel-ette

Takes and Makes Finished Pictures INSTANTLY

You press the button, drop card in developer and in **one minute** take out a **perfect, finished** post card photo $2\frac{1}{2}$x$3\frac{1}{2}$ inches in size. Camera, itself, is about $4\frac{1}{2}$x5x7 inches. Loads in daylight 16 to 50 post cards at one time.

No Films—No Plates—No Dark Room

Not a bit of the muss and bother of the ordinary kodak or camera. It is instantaneous photography! Universal focus lens produces sharp pictures at all distances. Pictures developed and print automatically. Can't overdevelop. Results positively amazing.

We Trust You

No difference who you are, where you live or what your age, we will send you the complete Mandel-ette outfit absolutely on approval and give you ten days to test it. If not satisfactory return at our expense. But when you see what elegant pictures it takes—so quick, so easy, with no trouble at all—if you wish to keep it you simply send us $1 per month until our special price of only $5 is paid.

Easy Payments—No Reference

No red tape of any kind. Monthly payments so small you'll not notice them. Simply fill out and send coupon today. Send no money. No references required. Lots of fun and big profits.

No Experience Required

Plain instructions and everything complete with outfit so you can begin taking pictures the moment it arrives. We guarantee that even a child can operate it. Mail coupon now. No risk or obligation to keep camera.

Chicago Ferrotype Company
Desk 26, Ferrotype Bldg., Chicago, - Illinois

WOULDN'T TAKE $50 FOR MY "MANDEL-ETTE"

I received the "Mandel-ette" Camera yesterday and am well pleased with it. Learned how to make good pictures in an hour and would not take $50 for it if I could not get another one.
Alfred L. Dustman, Berlin Center, Ohio.

IT'S A WONDER

The "Mandel-ette" safely at hand, and I am getting fine pictures "first crack out of the box." It's a wonder and I anticipate much pleasure in operating it.
W. H. Starkweather,
Wisconsin Veterans' Home, Wis.

$14 IN 6 HOURS

The "Mandel-ette" Camera I got from you some time ago is a wonder. I took in $14 in about five hours with it on the 4th.
C. A. Sund, Blahon, N. Dak.

FINE RESULTS AT FIRST ATTEMPT

I received the Camera all O. K. and I was surprised to see the results of the first attempts I made to turn out a photo. The "Mandel-ette" is one certainly worth the money and will do all you claim for it and even more.
James Colyer, Monroe, Iowa.

SURELY A WONDER

Received "Mandel-ette" as per agreement, and gentlemen, I wish to express my gratitude, most fully, for your prompt attention to my request.

I have already taken a few pictures with your camera, and I am forced to admit, that your so-called "Mandel-ette" is most surely a Wonder.
Arthur Hawthorn Lee, Coalspur, Alberta.

GREAT PLEASURE WITH HIS

The Camera is certainly a dandy. I was surprised to know that it could take a photo so fast. I have had great pleasure with it. Everybody thinks it is the only thing.
Fred Witte, Central Point, Oregon.

REMARKABLY CLEAR PICTURES

I received the "Mandel-ette" some time ago and am having all kinds of fun with it. It takes remarkably clear pictures. The "Mandel-ette" needs no recommendation. I just show the pictures to my friends and they all understand at once what a fine camera it is.
Gertrude E. Gessler, Bangor, Wis.

CAN'T BE BEAT

I beg to thank you for your "Mandel-ette". I get it all right. It is a dandy. The machine can't be beat, there is nothing like it.
James McDowell, Bismark, Mo.

PLEASED

Received my "Mandel-ette" on Saturday and am well pleased with it. I have never taken a camera or kodak picture before but my pictures were good. I would recommend the "Mandel-ette" to anybody wanting a good, inexpensive camera.
Margaret Smithe, Dexter, Mo.

$8 IN 4 HOURS—COULD HAVE MADE MORE

I got the "Mandel-ette" on Friday evening and started work on Saturday morning. Made $8 the first four hours and run out of cards. Could have made that much more if I had cards.
Harry Singleton, Claysburg, Pa.

PICTURES A SURPRISE

Am well pleased with the "Mandel-ette". Had no previous experience with cameras or kodaks before but found the "Mandel-ette" very easy to operate. It does all you claim for it—the "One Minute" pictures are a surprise to everyone. Thank you for your promptness in sending the camera and supplies.
Mrs. Anna Hegner, Beaver Falls, Pa.

Chicago Ferrotype Company
Desk 26, Ferrotype Bldg., Chicago, Illinois

Send me at once complete model Mandel-ette outfit including supply of post cards and instructions. I agree to examine and test it thoroughly and if satisfied pay you $1 a month until your special price of $5 is paid, otherwise I will return it at the end of 10 days at your expense.

Name .....

Street and No. .....

Town ..... State .....

Chicago Ferrotype Company
Desk 26, Ferrotype Bldg., Chicago, - Illinois

2 Bargain Grocery Offers

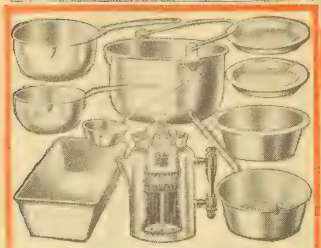
Special to Readers of

FARM NEWS

SUGAR 2½c Per Lb.

And a Handsome PREMIUM

Given Without Extra Cost With Each of These Bargain Grocery Offers



Aluminum Set No. 24082

Offer No 7

We will send you this Big Bargain List of Grocery Products including 25 pounds of Sugar at 2½c per pound and over twenty other articles which every housewife uses every day, and one of these complete 10-piece Sets of Aluminum Ware—all *for only $10.* Think of it!—$10 worth of groceries and this fine Aluminum Set—all for $10.

Description of Aluminum Set No. 24082

Every piece made of pure aluminum and so stamped. Set consists of:

One 6-qt. Preserving Kettle
One 2-qt. Lipped Sauce Pan
One 1-qt. Lipped Sauce Pan
One 2-qt. Handy Pudding or Baking Pan
One Bread Pan, size 8 3-4x 4 1-2 x 2 3-4 inches
One 2-qt. Coffee Percolator
One Soup or Vegetable Strainer
One Handy Ladle, 13 inches long
Two 9-inch Pie Plates

The Coffee Percolator has an ebonized wood handle.

Grocery Offer No. 7

25 lbs. Granulated Sugar	$ .62
3 lbs. Coffee (unground)	.75
2 1-½ lb. Pkges. Breakfast Oats	.30
2 1-½ lb. Pkges. Wheat Breakf't Food	.30
2 2-oz. Bottles Lemon Extract	.50
2 2-oz. Bottles Vanilla Extract	.50
2 1-lb. Pkges. Ever-Ready Tapioca	.30
1 8-oz. Jar Peanut Butter	.20
1 ½-lb. Can Cream Tartar Bak. Pow.	.25
6 Cans Pork and Beans (large size)	.90
1 1-lb. Pkge. Spaghetti	.15
2 1-lb. Pkges. Ready-cut Macaroni	.30
1 ½-Pkge. Shredded Cocoanut	.20
2 1-lb. Pkges. Corn Starch	.20
2 Pkges. Caramel Pudding	.30
2 Pkges. Strawberry Gelatine	.20
1 12-oz. Jar Prepared Mustard	.15
2 Pkges. Black Pepper (ground)	.20
4 Cans Lustre Bright Scouring Pow.	.40
2 Pkges. Washing Powder	.20
2 3-lb. Pkges. Gloss Starch	.50
10 Bars Fine Toilet Soap	.50
10 Bars Floating Bath Soap	.50
2 Laundry Wax	.10
30 Bars Family Laundry Soap	1.50
Total	$10.00

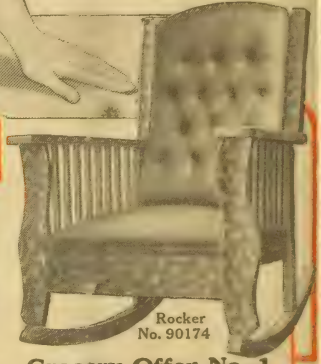
ALL FOR $10.00 ONLY

Offer No 1

We will send you this Big Bargain List of Grocery Products including 25 pounds of Sugar at 2½c per pound and over twenty-five other products which every housewife uses every day, and this comfortable, massive solid Oak Rocker all *for only $12.50.* Certainly a big bargain.

Description of Rocker No. 90174

Frame is of solid genuine oak with a fine rich Golden Oak finish. Front posts and arms are four inches wide; eight 3-4 inch square spindles under each arm; seat is extra large and roomy with spring construction, measures 21 x 20 inches. Rocker luxuriously upholstered in best grade of black imitation leather. Seat smooth, back tufted. Back 27 inches high from seat. This chair is extra massive, well-made, comfortable and will be appreciated by every member of the family.



Rocker No. 90174

Grocery Offer No. 1

25 lbs. Granulated Sugar	$ .62
3 lbs. Coffee (unground)	.75
3 1-½ lb. Pkges. Breakfast Oats	.45
3 1-½ lb. Pkges. Wheat Breakf't Food	.45
2 2-oz. Bottles Lemon Extract	.50
2 2-oz. Bottles Vanilla Extract	.50
2 1-lb. Pkges. Ever-Ready Tapioca	.30
1 8-oz. Jar Peanut Butter	.20
2 ½-lb. Cans Cream Tartar Bak. Pow.	.50
6 Cans Pork and Beans (large size)	.90
2 1-lb. Pkges Spaghetti	.30
2 1-lb. Pkges Ready-cut Macaroni	.30
2 ½-lb. Pkges. Shredded Cocoanut	.40
2 1-lb. Pkges. Corn Starch	.20
3 Pkges. Caramel Pudding	.45
2 Pkges. Strawberry Gelatine	.20
2 Pkges. Raspberry Gelatine	.20
1 12-oz. Jar. Prepared Mustard	.15
1 Pkge. Black Pepper (ground)	.08
6 Cans Lustre Bright Scouring Pow.	.60
3 Pkges. Washing Powder	.30
2 3-lb. Pkges. Gloss Starch	.50
10 Bars Fine Toilet Soap	.50
10 Bars Floating Bath Soap	.50
1 Pkge. Laundry Wax	.05
1 Pkge. Ball Blue	.10
50 Bars Family Laundry Soap	2.50
Total	$12.50

ALL FOR $12.50 ONLY

(320) FILL OUT THE COUPON—MAIL TODAY

CROFTS & REED CO., Dept. B284, CHICAGO, ILLINOIS

Enclosed please find $.....for your Special Introductory Grocery Order No.....and Premium No..... It is understood that you guarantee to refund my money and take the entire shipment back at your expense if not satisfactory.

Name .....

Town .....

Street or R.F.D. .....

State .....

Money Back If Not Pleased

We guarantee every purchaser perfect satisfaction. When you receive this shipment if you are not satisfied with everything—if you are not convinced it is the biggest value you have ever bought for the price anywhere—just send the shipment back to us at our expense and we will refund your money, making no charge for a reasonable amount of goods consumed in making your test. Be just as critical as your wish—judge for yourself—compare the quality of our products with those you have been using—notice their freshness and superior quality. Note particularly the fine flavor of our Coffee—the cleansing and long lasting quality of our Laundry Soap. The high grade sugar which is thoroughly refined and granulated, crystalized and absolutely pure.

You take absolutely no risk in dealing with us—our guarantee is as good as a "Gold Bond." We have been in business for over twenty-six years—we have advertised in this paper for a long time—we have more than a million satisfied customers—ask the publishers of this paper, your banker, postmaster, or freight agent, if you are in doubt as to our reliability.

CROFTS & REED CO. Dept. B284 Chicago, Ill.

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JUN 7 - 1916

FARM NEWS

All that is New and Best for the Farmer

JUNE Springfield, Ohio 1915

Circulation Exceeds 400,000 Copies Monthly

With the Editor

If farmers would ever stop to think over the fact that they hold the balance of political power, they certainly could exact some splendid performances, not pledges, from the parties in power.

The leather horse for being the prize "famdool" should go to a member of the Colorado legislature, who introduced a bill providing that chickens be compelled to go to roost before 7 o'clock every evening, and that bulls driven along the road at night should wear red lights.

Hog cholera has not as yet been solved to the satisfaction of any one in particular. Persons who have used serum say that it does not do the work expected of it. Others say that it is the only thing that will do it. In this number of Farm News we are telling you the story of J. W. Pence, a Clark county, Ohio, farmer, who has gone through three epidemics of hog cholera in his immediate neighborhood, and came through with no cases whatever. He tells you the story in his own words, and it is mighty good reading.

West Virginia now has twenty-five county agriculturists, with applications for two more. The two latter will not be supplied until additional funds are furnished. It looks as though the farmers in that state had a political issue ready made, if they care to look at it in that way.

Right at this very time is the opportunity to save money by laying in eggs. Not literally, but by soaking them in a preservative. In this issue of Farm News we are giving our readers the best kind of instructions for doing this. It not only has a tendency to equalize the price right now, when eggs are plentiful, but enables you to have a stock when the hens take a rest.

One of the unfortunate things about marketing is that one dishonest producer in any community will give produce emanating from that district a black eye from which it will take years to recover. The purchaser doesn't know the individual—he knows only that the product with which he was "stung" came from a certain district, and as a result all commodities originating from there comes under the same suspicion.

One of the handsomest specimens of the printer's art to reach our desk in many a day is the booklet of the Wilburtha Poultry Farms, at Trenton Junction, N. J. It is distinctly a work of art, and something which every poultryman should have.

Another high-class book which has been received is the new catalog of the Witte Engine Works, Kansas City, Mo.

In writing for any of the books mentioned by Farm News as being well worth sending for, always mention the fact that you saw the notice in this paper.

For the past ten years the Goodyear Tire & Rubber Co. has followed a policy of making "young partners" of such of its employes as have shown special ability and rendered highly efficient service—by making them common stockholders in the company. Goodyear has 235 of these young partners at the present time—Branch Managers, Department heads, Factory foremen and others who have distinguished themselves by special service.

The result of this policy has been so satisfactory that the Company now proposes to extend it. The organization has grown mightily in the past few years, just as the business has grown, and more candidates for "young partnership" are under consideration.

To that end a stockholders' meeting will be held June 1, to authorize an increase in the Company's common stock, as all the present authorized common is outstanding and none is available for the proposed distribution.

In the past Goodyear has disposed of its stock to employes on the basis of five year contracts, simply setting the stock aside in the beneficiary's name, and permitting dividends, cash and stock, to accumulate to the end of the period, when settlement is made. The employe really purchases the stock at par, though most of the payments automatically take care of themselves.

The plan has been a great stimulus to loyalty and ambition and intelligent service. Men, realizing they were stockholders, with stockholders' responsibilities, have given a different quality of service than otherwise. It has been the basis of the famous "Goodyear Spirit" of aggressive organization, known from coast to coast. And this is given as one of the reasons for Goodyear's growth from a small concern to one which did approximately $35,000,000 of business last year, a world's record in tire business, with every prospect of establishing a new world's record this year.

"STAR—The Pocket-Piece of Geniality"

Men Who Chew Are Men Who DO

THE men of the navy who "draw a defensive line of steel" along our coasts have ever, in peace and war, found enjoyment in tobacco.

And STAR is a capital G-O-O-D tobacco, fat with extra long, chewing leaf of the mellowest variety, with a taste that *lasts*. In each thick STAR plug there are 16 full, chewable ounces.

A pure food commission and a board of weights and measures couldn't improve on STAR'S unvarying standard of honest weights, quality and absolute cleanliness of preparation.

16 oz. Plugs

10c. Cuts

Here's what American men think of STAR:

The pound STAR plugs chewed in one year, if placed end to end, would stretch from Portland, Maine, clear over to Seattle, Washington, down to San Francisco, across to Key West and end at Atlantic City, N. J.

STAR

CHEWING TOBACCO

LEADING BRAND OF THE WORLD

Liggett & Myers Tobacco Co.

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

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FARM NEWS

PUBLISHED MONTHLY BY THE

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SPRINGFIELD, OHIO

MATTHEW C. YOUNG, PRESIDENT

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV **JUNE, 1915** **Number 6**

THE BIG BUSINESS OF FARMING

May Soon Become the Shining Mark for Obnoxious Legislation

THERE is all the difference in the world between being "legislated for" and being "legislated at." So long as legislative bodies assumed a paternalistic and protective attitude there was no kick coming, but with legislative regulation and arbitrary commissions everybody was kicking, and that is the position "Big Business" finds itself in today. It is the history of the world that as soon as any person raises his head above the level of the mediocre there is always some one around to throw a stone and "holler" "Duck," and the bigger the man the bigger the crowd to shy stones and set up the cry of "Get under cover!"

HAS ESCAPED SO FAR

The business of farming so far has escaped to a considerable extent the annoying activities of legislative bodies, both national and state. In fact, any legislation attempted has been with a view to ameliorating his conditions. He has not been generally pestered with having his business legislated at, nor has he had commissions with arbitrary powers to say him "yes" and "nay." Ohio, however, one of the banner agricultural states enjoys the unique distinction of being the first state to hamper any of the paternal activities of the farmer, and in this case it seems to give the farmers of that state a taste of the situation in which "Business" finds itself—too much legislation—too much commission—too much uncertainty.

THE ROAD TO COMMERCIAL PROGRESS

Farmers as a class, do not always realize any business run in a concentrated, co-operative way can only be beaten by the same kind of business run in a super-concentrated, co-operative manner. When each farmer acts as though he was a member of a corporation board of directors he is vitally helping himself and his co-workers in a movement directly affecting his pocketbook. The pathway of politics and of the "Big Business" of farming leads to where the farmer wants it to go. He holds the balance of power.

The time for howling down "big business" is over, for the farmer is a part of the country's "biggest business," and as such is benefited by united action for commercial progress, which is really a "trust," to use a technical term. To illustrate:

COUNTY AGENT PAYS HIS WAY

It is no longer a question whether county agent activities pay. It is recognized that they yield large dividends. And yet, in Ohio, one of the big agricultural states, the work is so handicapped, both by political interference and non-action, that when, as recently happened, sixteen counties voted upon county agent or no county agent, only two voted for. The reason why "no" prevailed was because of the chances for increased taxation without satisfying returns. The farmers do not know what to expect, for the county agent work is via a series of steps—governor, agricultural board or commissioner (see-sawing first one way and then another), and local improvement associations. There is a central state experiment station and several devoted to experimentation work specially adapted to local conditions—eight in all. Surely sufficient for the taxpayers to support, for these cover the ground and cover it well. Yet the governmental powers want an experiment farm in each county, which arrangement appears to point to a senseless duplication of effort which helps no one save in multiplying salaried positions—to be paid by the tax-payer. No other state requires this unnecessary tax burden. Why should Ohio?

EMPIRE STATE KNOWS HOW

New York has a superintendent of co-operative associations under the director of the Commission of Agriculture, who has general charge of the development of agricultural co-operative associations for the buying and selling of farm produce throughout the state. The superintendent helps organize such associations, gathers information useful in the development of the organizations, and assists them with aid and advice in the management and conduct of their affairs. This official recognition of the desirability of united commercial activity among farmers would be a splendid thing for every state, as there is no iron-bound, copper-riveted rule for New York's sole benefit. Farmers in any state can secure this self-same service if they unitedly demand it.

NOT AN APPLICANT FOR ALMS

We hear a great deal about state aid for farmers, as though farmers as a class needed a sort of almsgiving not accorded other citizens. There should be a full understanding among farmers as to what they want and then co-operate in its securance. Mr. Myron T. Herrick, of Ohio, who has made an exhaustive study of farm loans, both here and abroad, says "State aid, in ordinary times, is a great wrong, and means simply the bestowal of a benefit on one person at the expense of the public. The majority of farmers have no need of special favors, and when they realize that they must pay by increased taxes their share of the cost and any loss, they will oppose such class legislation."

With the active help of the farmers a way for equable farm loans, either through competent bank supervision or co-operative organizations can be inaugurated without the injection of a form of socialism or lengthy list of governmental salaried jobs to oversee the farmer.

RURAL AND CITY NEEDS DIFFER

No official coming from the city, no matter how willing, can absolutely understand the farmer's first hand needs and desires. He has been trained to one line of thought, the farmer to another; and so it is necessary that farmers be elected and appointed to look after farmers' interests. It is possible for the city man and farmer legislators and fellow commission board members to co-operate, but when direct action is needed those best acquainted with conditions should look after its concerns.

And so we might continue citing instances as to why a business-politico farmer co-operation is good individually, collectively, and nationally.

THE REAL NEED

"Centralization" may sound unfarmerlike, but it is simply because it has been a misused term. The need demands cutting out of duplication and unnecessary expense, and the uniting of units partially useless when alone but invincible when centralized.

SIZING UP GOOD DRAFT HORSES

Future Outlook for Good Draft Horses With Points for Both Buyer and Breeder

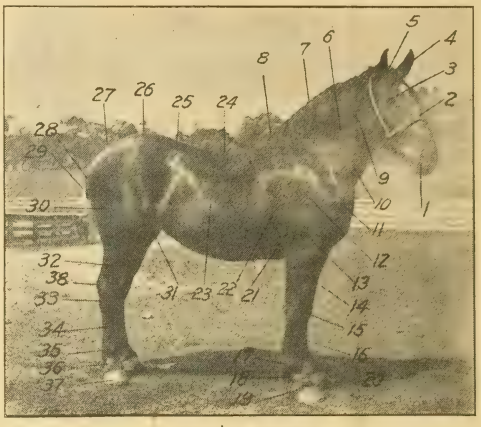
By George B. Crane

WHAT concerns the farmer at the present time when he thinks of producing draft horses of the highest type, is whether he is going to be well paid for it or not. Aside from the fact that anything well done is bound to bring recognition and usually plenty of cash, two more specific economical factors remain to fully encourage the production of heavy horses of the very best grade. These are first, city demands for draft horses are not materially decreasing because of the prevalence of the motor truck; and second, the need and profit of using the best of drafters for farm work is becoming more pronounced as more intensive systems of farming are being practiced, and more modern machinery used.

Several factors enter into the point that motor trucks cannot entirely replace good draft horses in the city. The demand is really greater than the supply, and prices being offered for the best grades is really remarkable. For some concerns the initial cost of the motor truck is too great and the upkeep too expensive. For others, a strong heavy horse serves the purpose better, due to many short hauls and frequent stops. In other sections crowded streets favor the use of the horse rather than the truck.

Still more important, however, is the fact that good draft horses are more and more needed for farm work. With the increase in population more intensive systems of farming are being taken up. More horse-propelled machinery must be used. There will be more farm products to transport. Thus it will be seen that the horse for most purposes will be more in favor than ever before in tilling the soil and getting products to market.

In a general way, most every farmer knows a good horse when he sees one. He likes to see them and he likes to work them. In fact I have seen cases where the boy remained on the farm because he liked horses, and his father seen that he had good ones to work with. Often, however, when it comes to the details as to just what makes up a good horse, the man who works them is not quite so clear. It is not only interesting but essential that a farmer knows why an animal has merit or otherwise if he is going to handle them. Let's see about the first-class draft horse.



PARTS OF HORSE

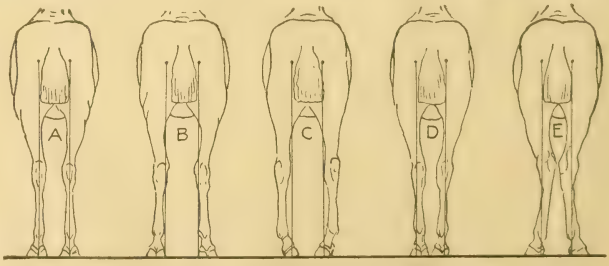
1. Muzzle.
2. Face.
3. Eye
4. Ear.
5. Poll.
6. Neck.
7. Crest.
8. Withers.
9. Throat Latch.
10. Windpipe.
11. Point of Shoulder
12. Shoulder.
13. Arm.
14. Fore arm.
15. Knee.
16. Cannon.
17. Fetlock.
18. Pastern.
19. Hoof head.
20. Foot.
22. Heart girth.
21. Elbow.
23. Ribs.
24. Back.
25. Loin.
26. Hips.
27. Croup.
28. Point of buttocks.
29. Tail.
30. Thigh.
31. Stifle.
32. Gaskin.
33. Hock.
34. Cannon.
35. Fetlock.
36. Pastern.
37. Foot.
38. Point of hock.

Weight, strength and endurance are the physical powers needed in the draft horse. The horse that weighs 1650 or over will be able to start a heavy load by merely throwing his weight against the harness, and will not be compelled to exert his muscle strength until after the load has been started. The strong animal is the one that has long muscles, permitting plenty of contraction. The endurance of an animal, gauged largely by his physical perfection, will enable him to stand up under heavy strains.

So the first thing to notice in judging the horse is his general appearance. Does he suggest power? Will this exhibited power be available over a long period of time? In form, the horse should present a picture of blockiness, being compact, well coupled, low set, broad, deep, massive and well proportioned. We have already mentioned weight. The draft horse should weigh at least 1600 pounds. The more he can weigh above this the better, preferably a ton or more. Weight is an undoubted asset. Heavy drafters have for years brought the highest prices on the best markets. The height of the draft horse should conform with his weight and general appearance, which for most horses should range between 16½ to 17½ hands, the measurement to be taken at the withers. Together with size, height and weight, quality is always desired. This is exhibited in well-defined features of the head, cleanness of bone and joints, mellow skin and fine hair. In temperament the most useful horses are energetic and of good disposition.

Among the details of the heavy horse's make-up, the most important to consider are the feet and legs. This is the part of the big horses used for draft power that bears the brunt of his weight and hard work. The feet must be large, round, uniform in size, straight with dense smooth horn, and have a heel if they stand up under the hard knocks of several years' service. The legs, to indicate wearing ability, should be correctly placed under the body, clean-cut, straight, strong, of good size. The pasterns in the front legs should be oblique and strong. Similarly the hocks in the hind legs should be clean-cut, wide, deep, straight, smooth, point prominent and well supported below.

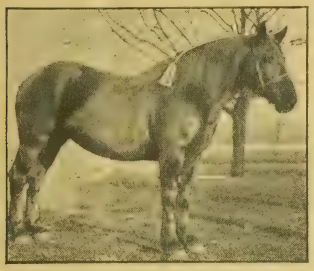
The front legs, viewed from in front, a perpendicular line dropped from the point of the shoulder should divide the leg and front into two lateral halves; viewed from the side, a perpendicular line, dropped from the prominence on the shoulder blade, should divide the



Position of hind legs, viewed from behind

A, proper set; B, too wide; C, too wide at hocks and fetlocks and toes pointing in; D, too narrow; E, cow hocked, too close at hocks and too wide at toes.

limb and meet the ground just back of the heel. The hind legs, viewed from the rear, a perpendicular line, dropped from the point of the buttock, should divide the leg and foot into lateral halves; viewed from the side, this line should touch the point of the hock, and meet the ground some little distance back of the heel. A perpendicular line dropped from the hip joint should meet the ground midway between the heel and toe.



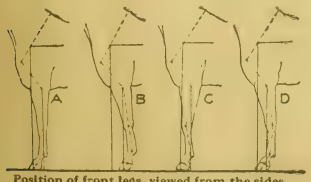
An attractive farm draft mare

After we have a horse of excellent form standing correctly on a good pair of legs and feet, we should examine the details of the rest of his body to see that they come up to standard and that there are no deficiencies. Highly important among the details of the body is the chest, the region just back of the shoulders. The chest should be wide and deep, giving plenty of room for development of heart and lungs. In front of it should be a smooth, sloping snug shoulder. Above it should be a broad, strong, straight back, because it is in the back that most of the muscular strength of the body is developed. The ribs in the best horses are long and well sprung.

In the hind quarters, smooth wide hips, a long, wide muscular croup, muscular thighs, deep heavily muscled quarters are features desired in the best heavy horses. All parts, in both front and hind quarters, should be smoothly put together.

The head and neck of the draft animal, while relatively an unimportant part of his make-up, will often indicate a great deal. The head should be well formed and intelligent looking. A full, large, clear eye indicates health and vitality. A fine muzzle, with large nostrils and thin lips, suggests quality. The forehead should be broad and full, and the ears medium sized, and well carried.

An ideal draft horse standing will be of no great value unless he can travel. He should therefore be examined for action. The walk, of course, is the most important gait of the draft horse. He should move off quickly, displaying plenty of snap. Steps should be true, smooth, long and elastic. When viewed from the front, watch and see that the feet are carried in a straight line. In examining the gait from the rear, see that the horse picks up his feet well and carries them forward quickly and gracefully. The walk should be steady and regular. In the trot the same requirements are desired with the movements more rapid.



Position of front legs, viewed from the sides

A, proper set; B, leg too far back; C, knee sprung, buck kneed; D, position in calf-kneed.

WATERING HORSES IN THE FIELD

We usually have some very warm weather in June and July during the harvest season, and the hot spells are times for precautions with the teams. It is a busy time in the fields, with late cultivating, hay making and grain cutting on hand, all at the same time. Possibly the harvest begins to crowd the farmer by ripening more rapidly than expected. Then the necessity is upon the workers to push the work to every reasonable extent.

The teams are severely taxed. In such a case it is an excellent plan to unhitch the teams in the middle of the forenoon and lead them to the watering tank for a cool drink of water. If working in a distant field a barrel of water can be taken to the field on a stoneboat or one-horse sled, and every now and then the horses that are working so hard may be given a good drink.

Offer this water fairly frequently on a hot day. It takes but a few minutes each time, and the horses not only enjoy the drink, but it refreshes them wonderfully. They lean into their collars for the next round of the harvester with more energy than they otherwise would.

Another good thing follows from this custom. When the horses are led to the stable at noon or in the evening they do not overdrink. A little water is sufficient for them. They are in a better condition to eat the grain that is provided them. And as they are brought from the stable to go to the field again they will not drink a surfeit of water. It pays to look out for the welfare of the work horses during hot weather in every way possible.—W. F. P.

MATCHED TEAMS FOR FARM WORK

Nothing contributes more to the pleasure and satisfaction of farming than well matched work teams. It is astonishing to realize how many farmers there are who have allowed themselves to be swayed by temporary opportunity, temporary expediency, the arising of unusual circumstances, to go out and buy work horses without much real thought in regard to matching them as to size, weight and disposition. It is impossible to perform efficient work in the field with modern implements unless one has a responsive team. A pair of suitable horses, evenly matched in strength and disposition, responds to skilful driving with such splendid results that the driver is encouraged to do his best work.

It is a comparatively easy matter to go out and buy a pair of work horses that match fairly well as to size and appearance, but the matching of dispositions is no easy matter. It is only by working a team together for several days or weeks that one can determine the working temper of a new horse, and he is very likely to prove unlike his prospective mate. In such cases, when utility is lost sight of in matching to color and appearance, the result is too often a team that works half in the breeching and half in the collar. The exasperation in working such a team is scarcely exceeded by any other disagreeable task on the farm. Greater efficiency in the field is secured by

An excellent type: Note the striking characteristics in the more important parts, such as the smooth shoulder, short, strong wide back and loin

matching horses according to their disposition, even if they do not look alike. When a pair of horses walk up promptly, turn the corners without fighting, and respond simultaneously to the orders of the driver, it is a pleasure to follow them, and they can be made to fill the requirements of the work.

The problem of matching horses on the farm is never settled until one has a few uniform mares, all of the same disposition, size and color. Then by patronizing the best stallion of the desired breed, and staying with that breed he can breed a uniform lot of colts, and always be in a position to make up two, three and four horse teams as the occasion requires. To produce a certain type of horse it is important that the sire and dams should be of nearly the same material in character and construction as is possible. It is also desirable that their ancestors be as nearly alike as may be in color and appearance. In that way we gain distinctiveness of type and uniformity. Each animal is so much alike in size, strength and disposition that aged mares and three-year-old colts may work together in pleasing harmony, so that almost any of the horses may be substituted for those temporary unfit for work, or put to-

(Continued on Page 31)

Position of front legs, viewed from in front

A, proper set; B, too wide; C, too wide; D, too narrow.

THE GROWTH OF THE YOUNG ORCHARD

Absolute Control of All Forms of Growth Essential to Successful Fruit Production

By Alvah H. Pulver

THE owner of the young orchard has numerous problems always confronting him. When the young trees are in bloom, and all prospects seem to point to full success, there is much more to do than to wait until the bloom passes into mature fruit. As the trees shoot forth their blossoms, bouqueting the farm in a fragrant galaxy of new life, there is much to compensate the grower for his efforts to bring the trees into bearing in the sight afforded and a fine vision of profit.

Like every growing form of life the trees of the orchard need food, and the grower who understands the problems arising from the food question stands in the best light to receive bounteous rewards for his attention to the trees. The question of fertilizers is an all-important one. In regard to some of the fertilizers that an apple orchard needs, there seems to be a great diversity of opinion. It must be accepted from this that not all orchards need the same kind of fertilizers to get good results. One important point accepted by a preponderance of important growers and orchardists is that absolute control must be kept of the growth the trees are making if the results are to be at all successful.

Pear orchard in which the strips containing the rows of trees is left unplowed

It will be necessary to recall that there are four ingredients which can be used by man to grow apples and to grow wood. These are potash, phosphoric acid, humus, or rotten vegetation, and ammonia. Nearly all of our soils have these ingredients in them to grow apples—enough to continue the tree growth and bear apples, and bear them abundantly until some one of the four elements becomes depleted. Then, the problem coming to the orchardist is to ascertain which one of the four essentials has become exhausted, and to supply it so that the trees may have a balanced ration.

In order to determine what the tree needs, the grower must study his tree. He must know what each one of the four ingredients will do for the tree. It will be well to remember that ammonia grows the wood and increases the size of the fruit. Potash and phosphoric acid help to form the fruit buds and to grow the seeds of the fruit. Also, they give the tree a sturdier growth. Humus, as it becomes disintegrated with the soil, helps the soil to take up moisture and retain it. Humus also helps the potash and phosphoric acid that are already in the soil to become more available.

If the apple tree is making an unusually large wood growth, but does not bear many apples, and these apples should be of large size and inclined to grow rough, it denotes that the tree is getting plenty of ammonia but not enough potash and phosphoric acid. If the tree is making a poor growth, and is inclined to set a large amount of buds and produce a large number of apples of small size, it shows that the tree is getting plenty of potash and phosphoric acid but not enough ammonia. If the tree is setting a fair amount of apples, and is making a fair wood growth, but later in the season seems to be easily affected by drouth, it would denote that the soil lacked humus or rotten vegetation.

Young pear tree showing result of this plan of cultivation

The question next commanding the grower's attention is that of supplying these missing ingredients. Most of our soils, except possibly the light sandy or gravelly soils, have plenty of potash, although possibly not readily available. Nearly all of our soils are becoming deficient in humus. Potash is supplied in the application of either muriate of potash or sulphate of potash. If the soil is of a retentive nature, that is if it holds moisture readily, we use sulphate of potash. If it is inclined to be dry, we use muriate of potash. The ammonia is sometimes supplied by barnyard manure, or by buying some fertilizer that is high in ammonia; but by many, including B. J. Case, of Sodus, N. Y., the dean of apple growers of New York state, it is maintained that the cheapest and best way to supply ammonia is to grow leguminous plants, such as mammoth clover or winter vetch. These plants have the faculty of taking nitrogen from the air and storing it up in little nodules on their roots, and then when the clover crop is turned under the next spring, it is left in the soil and furnishes a lot of humus and ammonia.

The fruit-growing business is not fettered by any cast iron rules. One can give only a general method to be followed. Mr. Case did a lot of experimenting with fertilizers several years ago, and settled down to the formula of about 100 pounds of muriate of potash; about 300 pounds of acid rock that would analyze 14 per cent available phosphoric acid; about 300 pounds of bone meal that would show analysis of about three per cent of ammonia and 22 to 24 per cent phosphoric acid, using this amount per acre, varying it according to the soil and the lay of the land. If the land is rolling, double the amount should be put over the tops of the knolls and only half the amount in the hollows, as every rain will wash down to the lower levels.

The best success is had by sowing the fertilizer by hand, as no sower can be found completely satisfactory, for the reason that one does not want the same quantity sown in all places. From this source is obtained the potash and phosphoric acid and a little ammonia with the bone, using what manure is to be had on the knolls and on trees that were not making a normal growth of wood, and on which the apples were inclined to be small, using it especially

on any young trees not yet in bearing but depending largely for ammonia and humus on the cover crops that could be grown in the orchard each year from the time the cover crop was sown until winter. With these methods it will in most cases be found that the tendency is towards better crops and better quality, with a general improvement in the tone of the orchard.

Mr. Case says: "I formerly thought that I must have large quantities of barnyard manure, but in later years I have become convinced that barnyard manure is not a balanced ration for an apple tree. It is too high in ammonia and too low in potash and phosphoric acid. One thing is sure; I have grown much better and finer crops of apples under the treatment mentioned than I did when I used so much manure.

"I am fully convinced that the feeding roots to an apple tree—that is, the small hairy, fibrous roots—are not near the collar of the tree, but are away out, most of the time extending away beyond the branches, and in an old apple orchard one will find many more of them in the spaces between the trees than can be found underneath the tree. For this reason I do not sow any fertilizer, either manure or chemical mixture, within several feet of the collar of the tree, but cover the ground away beyond the branches."

These are the salient features of the fertilizer problems. When the grower is able to strike a diagnosis based on the needs of his trees he is on a fair way to cope with all emergencies not having to do with tree diseases and pests.

In young orchards the general custom is to thoroughly cultivate the soil, and many of the most progressive growers never allow grass or weeds to appear in the orchard. In the pear orchard shown herewith the soil is left unplowed in strips containing the rows of trees, a policy generally followed where local conditions enter.

As apple production increases on a scientific scale the question of fertilizers will receive more and more attention. Within the soil in generous quantities are the elemental food qualities that go to make the tree and its fruit. But they are not always in available form, and if any progress is to be made in facilitating nature in the processes of apple production, as well as other fruits, the study of fertilizers and their application must receive more than a cursory study.

IT DOES MATTER WHAT YOU DO

Do you think, because you are just a boy
It matters not what you do?
Just let me whisper a secret, dear,
The world has its eye on you!

For the boy of today, thoughtless, carefree,
Tomorrow will be a man,
Who will take his place in the busy world
And fill it as best he can.

And a man is just a boy grown up,
So, remember, whatever you do,
That just as the boy is, so is the man
And the world has its eye on you.

—F. J. H.

PONY PRIZE PUZZLE. TRY IT NOW

EACH ONE of these six pictures represents a well known flour. The first is Dandelion. Can you tell us the names of the other five? Sit down now and work this out and send in your solution. If you think real hard you can tell what they are and it will surely pay you to do so. When your answer is received,

You Will Win a Prize

consisting of a packet of 5 beautiful post cards and 32 pictures of a trip around the world. We know you will be pleased with the prize. We will also send you 1500 free votes in our grand contest in which we will give a beautiful Shetland Pony. You have a good chance to win in this contest as it is an entirely new plan. All you have to do is to enclose two cent stamp in your letter to pay postage and cost of mailing and your prize and 1500 free pony votes will be sent you at once. Remember, we give a beautiful

Shetland Pony Free

in our grand contest which we will tell you all about. Send your answer at once so you can be entered. Full particulars sent by return mail.

EVERYDAY LIFE, Pony Department 43, CHICAGO, ILL

HOG CHOLERA—HOW THRICE BEATEN

Sanitary Attention and Promotion of Vigorous Growth is Best Preventative

By L. M. Johnson

THROUGHOUT the central section of Ohio Mr. J. W. Pence is noted for having been able to keep hog cholera at bay while his neighbors' pens were being devastated. His ability has been so exceptional that the methods used deserve wide circulation, as hog cholera is one of the worst scourges with which farmers in every section have to deal.

"These methods have worked three times, and I feel pretty confident they are effective barriers, but one can never be sure. Boomerangs have been known to land in what was supposedly safe territory, but if the recital of the way in which I have managed to keep my hogs safe through three epidemics will be likely to benefit others, I am perfectly willing to tell what I have done," explained Mr. Pence in answer to my request for the story as to how he did it.

The type of hog that responds to the treatment advocated by Mr. Pence

"I am partial to pigs born in March and September, as I have felt they have thus had better climatic conditions. In raising any kind of stock every factor affecting them should be taken into account. The hogs so born make good baby meat in six months, and when sold at one year are lusty pocketbook fatteners. A hog with good care must weigh one pound a day for every day he is old, and should really beat that. I am going into swine raising from a number of angles, as no one thing defeats hog cholera. At least that is my observation. It is the constant succession of little things which sum up into the vitality which resists, conquers, or succumbs to the scourge.

"Many farmers keep hogs in small pens with earth floors and no clean space. They have no exercise. Good air is so scarce that it is hardly ever breathed into their lungs. Then too, they are often fed almost solely on swill with some corn as a side line. I have never penned my hogs up, but have always kept them on clover or alfalfa. It is a demonstrated fact that any animal kept on grass slicks up in no time; and that dried grass has fifty per cent less digestive ability than fresh. I do not know just why, but the succulent grasses have some peculiar quality which is lost in the process of curing. I am a bit inclined to think it is partially because all animals like the fresh best, for you know how anyone or any animal thrives best upon the foods which they crave. From little pigs until killing time I run them on pasture. I do not ring hogs, as the flesh never entirely heals, is constantly irritated, and the animal runs the danger of having harmful germs enter its system through that channel. My hogs have never rooted.

A type of portable colony hog-house which gives great satisfaction.

"If you examine a hog's teeth you will note that they have two characteristics, some canine and others similar to those which indicate a grass diet. If one follows nature's guide posts he is not apt to stray far wrong. These teeth show that the proper feeding of hogs must provide two things: a combined grass and meat diet ration. A proper balance must be maintained. Hogs root because they are in search of earth worms. The farmer who provides for this dietary need kills two birds with one stone—gives a balanced ration and prevents rooting. To supply this flesh food I feed my swine tankage, a dried meat meal which is a by-product of the packing houses. This is equal to 60 per cent protein. Its cost averages $2.50 per 100 pounds, which is a cheap food, taking its feed value into consideration—the only real gauge. Give swine a balanced ration and consult their preferences for in the lower animals natural appetite is a sure guide to their welfare, and plenty of fresh, clean water.

"One must never let pigs get hungry. I feed ensilage during the winter, giving them what they will eat up clean.

"In pasturing I never permit them to stay long enough in one place to thoroughly foul the earth. I find that nature will clear up the space which they have occupied far better if I do not overload a herculean task upon her shoulders. Then, too, the hogs like a change. I would, if necessary, walk half a mile to find a clean spot upon the grass upon which to feed them. I use portable hog houses, for these can be readily moved from place to place in the pasture, and can be kept sanitary easily.

"Louse-infected hogs are peculiarly susceptible to the cholera contagion. A sure sign of a lousy animal is a little drop behind his shoulders and a slight curve in his back. I have found these two methods sure and safe cures for this infliction. Equal parts of melted lard and coal oil, rubbed in well all over their body, with particular attention paid to the surface nearest nose and ear apertures. The other is chloro-naptholium in the proportions of 1 to 50 of water. Put on with spray pump.

"It is said that hog cholera is highly contagious, but I sometimes wonder. To illustrate what I mean: About four years ago a neighbor who specializes in hog raising had about 160 out of 200 head die from the cholera. There were only two wire fences and the road between his hogs and mine. Each of us had a pup, and I have found both of these worrying bones of his unfortunate hogs which had died with the cholera, out in the fields where I kept my hogs. However, my pigs were never infected.

"My experience has been that a hog's system can be made largely immune by the caution which keeps dirt at bay, discomfort at a minimum, and a common-sense-dictated ration. These build up his system into greater resistance strength. At any rate they have preserved my animals so far."

The A-shaped hog-house, popular with many hog raisers

$300 Monthly for

I WANT TO PAY THIS BIG SALARY TO YOU!

I want square men to act as my Special Sales Representatives in every county. I want hustling, energetic, ambitious fellows, anxious to make big money, who are willing to work with me. I want to show YOU how to MAKE $300 PROFIT AND EXPENSES EVERY MONTH. I want to show YOU how to make more money, easier, quicker, more sure and certain than you ever did before in all your life. I want you to **advertise, sell, and appoint local agents for the most sensational seller in 50 years**—the startling invention that has set the entire country agog—

The Robinson Folding Bath Tub

Here's an absolutely new invention. Nothing else like it. Has taken the entire country by storm. Solves the bathing problem. Gives every home a modern, up-to-date bath room in any part of the house. No plumbing, no waterworks needed. Take full length bath. In any room; up-stairs, down-stairs, bed-room, sick-room, parlor, kitchen, any room in the house. **The Robinson Tub folds in small roll,** handy as an umbrella. Rivals expensive bath-room. Constructed of the wonderful "Steeline" material. I tell you, it's **Great!** Remember it is needed in every home. Means modern bathing facilities for **all** the people. A godsend to humanity.

Sensational Sales Success!

What others are doing YOU can do. Read these records. N. T. Smith, Ohio, $90 weekly profit. Meyers, Wisc., $250 first month. Beasley, Nebr., $35 first 4 hours, Newton, Calif., $60 in 3 days. Mathias, Fla., $120 in 2 days. Corrigan, N. Y., $114 in 60 hours. C. H. Tremont, Ind., $35 profit first 3 hours. W. F. Hincard, New Mexico, $35 in 2 days. Average men, average sales, average towns. Undeniable Proof of the Big Money to be made by the hustlers everywhere. The Robinson Tub is badly wanted and eagerly bought.

I want you to handle your county. I'll furnish demonstrating tub on a liberal basis. I'm positive, yes, I'm absolutely certain that you can make bigger money in a week with me than you ever made in a month before. Hustlers, east, west, north, south, are simply coining money. Orders, orders, everywhere. For remember, fully 70 per cent of the people have no bathrooms. You can take the orders right and left. Quick sales and immense profits. 2 sales a day means $300 a month profit. Stop and realize the tremendous possibilities. Look around you. Be amazed. Your neighbors, friends, relatives, have no bathrooms. They are eager for one. Never had the opportunity to install one. You step in; show the tub. Sale's made, profit sure.

No Experience Needed

Why, I don't care if you never sold anything before in all your life, you can make good, big money with me. You're honest! You're square! Of course you are. You've got grit, ginger, gumption! Of course you have. You want to make good! You want to make big money! Sure you do. Well, that's all I ask. If you are willing to do your best, backed by my co-operation and help, you can blast out the biggest financial success of your career. I grant credit, you know, so money can't hold you back. I furnish sample on liberal plan. I help you out and back you up. So don't let doubt drag you back. You have nothing to lose. My other men are building homes, starting bank accounts, so can you.

Customers' Words of Praise

See how pleased these people are: "Delighted with Tub; will recommend it." Mrs. Jennie Hall, Miss. "Bath Tub O. K. Just right size." Wm. Benz, Ohio. "Our Tub has been in daily use. Fine." Mrs. J. E. Randall, N. Y. "Have been using your Tub. Could not do without it." Mrs. G. C. Money, Iowa. "Robinson Tub first class." Chas. A. Massie, Wash. "Tub arrived, children and all delighted." C. R. Loucks, La. "We all took a bath. It sure is a daisy." O. L. Morris, Ore. "After testing your Tub can say it surely is a wonder and gives entire satisfaction." O. P. Morgan, Ohio.

Empties Itself

Remember this: The Robinson Folding Bath Tub, equipped with our special Outlet Emptying Device makes the Tub positively self-emptying. How convenient and handy this is. After the bath no fuss and bother emptying the tub. By the time you're dressed the tub is emptied ready to lay away. All the conveniences of a modern, up-to-date bath-room, and yet the Folding Tub does not take up space or be in the way when not in use. No special room need be set aside as a bathroom unless desired. Any room can be made into a bathroom in 5 minutes time. Is it any wonder users are delighted, and agents are enthusiastic. The Robinson Folding Bath Tub demonstrates its value immediately upon showing. It is the ideal bathing equipment for every home, city, country or town, for camping, etc., as well as the one desirable tub for the sick-room, bed-room, parlor, living-room or kitchen; any room can be made into a bathroom in a jiffy. All this without plumbing, waterworks or extra expense. After the initial cost there are no further expenses to pay. Every home, everywhere, is just waiting for the Robinson Folding Tub.

Guaranteed For 10 Years Cannot Leak

Every Robinson Folding Bath Tub that leaves our factory is guaranteed for 10 years against any defect in manufacture. This is due to the remarkable invention "Steeline," the material used in the construction of the Robinson Folding Tub. Constructed with this material the Tub can be, and is, guaranteed for 10 years. Should it prove defective a new Tub is immediately furnished in its place. This guarantee protects every customer for a period of 10 years. "Steeline" makes the Tub soft and pliable, yet strong and lasting. The Tub cannot spill, tip or splash. Just as strong and durable in use as the ordinary enameled tub, but in convenience so far superior. In buying the Robinson Tub, customers take absolutely no risk. They are guaranteed against defects by our liberal, binding guarantee. Families everywhere boost the Robinson Tub to their friends which makes the sales come fast and sure for our representatives. Surely the Ideal bathing equipment without one objectionable feature.

JOIN ROBINSON'S MULTITUDE OF MONEY-MAKING AGENTS

Yes, join the many men and women who are making bigger money than they ever did before. **You don't need to quit your regular job right now.** Try the business out, evenings, Saturday afternoons, whenever you have a little spare time. See that all I tell you is so. Then quit your job. Say good-bye to the time-clock; say good-bye to grinding work and meagre pay. Bid your pay-check pals farewell forever. Just for a change, you be the Boss. You can do it. I know after one week of spare time effort you will be eager to devote all your time to the sale of the Robinson Folding Bath Tub. You will be enthused, positively amazed. You will say: "My luck was surely with me when I got acquainted with Robinson."

A Sure Chance For Ambitious Hustlers

I wish that I might call a meeting of all ambitious men and women in America that I might talk to them and tell them of the tremendous possibilities in this business; show them the sales my other representatives are making; convince them beyond the possibility of doubt that here at least is the chance they have been waiting for; the "Opportunity" that is said to knock at every man's door once. If I could only look you squarely in the eye and tell you all the facts about this wonderful business; if I could only lay before you undeniable proof—stacks of letters and orders on my desk; if I could show you enthusiastic letters from Robinson Representatives—Hesitate! Why, man, you wouldn't hesitate for the thousandth part of a second. You would drop everything, your job, your other business, like a "hot potato" and say "Robinson, I'm with you."

Mail This FARM NEWS Coupon TODAY!

Yes, sign this coupon right now. Don't send me a single penny. Don't send me any return postage. Don't send me any remuneration at all. Just sign and mail the coupon. That is all I ask. By sending the coupon you give me the chance to prove every word I have said. Let me prove every statement. Let me tell you the whole enthusing, ambition-awakening story of a tremendous world-wide success. Will you do this? Of course you will. Sign and mail the coupon NOW!

H. S. ROBINSON, Pres't.
The Robinson Cabinet Mfg. Co., 544 Factories Bldg., Toledo, Ohio
Canadian Branch, Walkerville, Ontario, Canada

Sign the coupon below. Let me tell you the amazing story of "Steeline;" let me tell you of that ingenious device that makes the tub self-emptying; let me tell you of the years of self-sacrificing experimental work; the years of unremitting effort in the working out of an ideal; perfect bathing facilities for every home, that the rich, the poor, the high, the low, may might have the comfort and convenience, the pleasure and luxury of a modern bathroom. Let me tell you of this wonderful invention as it is today, an article which I honestly believe to be the greatest invention for the average American home of past century. I can't tell you all this in person, so send the coupon below and let me write you a long letter.

Let Me Tell You All

I want to tell you the entire story. Then can you decide whether or not you appreciate the immense possibilities of the business I want you to start in. You will read of hundreds of men in your position who were at first skeptical, then curious, then enthusiastic, who are making bigger money today than they ever thought possible in their most roseate day dreams. I will tell you how one ambitious man or woman in each community can connect with "Opportunity," get a strangle hold on success, know the blessed stimulus of financial independence. You will then realize, know, and appreciate the fact that honesty and ambition combined with the right proposition and backed by conscientious effort are the only requisites to an abundant success.

Special FARM NEWS Coupon

H. S. ROBINSON, Pres't.
Robinson Cabinet Mfg. Co., 544 Factories Bldg., Toledo, Ohio.

$300 a month looks good to me. Write me and tell me all about your special plan and how I can make this big money acting as your representative. This obligates me in no way.

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Auto-Fedan Hay Press

Saves 20% Baling Cost

MEANS ONE MAN LESS. Both belt and power presses.

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and get the best POWER PRESS on the Market—bales hay, saws wood, grinds feed, pumps water. Capacity, speed and economy in the baler that gives service.

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Our new illustrated book gives valuable information that will interest you. IT IS FREE. Write for it today.

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A Money Maker for You

Strongest, Most Durable, Most Economical and Simplest Baler made—best work—capacity 10 perfect bales in 5 minutes—exclusive features. Fully guaranteed

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60 styles. Hand, Horse, Belt and Engine Power. Write for free catalog.

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MILLET & CLOVER Write for prices. C. N. Robinson & Bro. Dpt 167 Baltimore, Md

Seed Growers and Importers. Established 1870

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40 designs—all steel, handsome, cost less than wood, more durable. We can save you money. Write for free catalog and special prices.

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YOUNG MAN would you accept a tailormade suit just for showing it to your friends? Then write BANNER TAILORING CO., Dept 91, CHICAGO, and get beautiful samples, styles and wonderful offer.

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A monthly Guide to Money-Making. Tells how $100 grows to $2,200—how to get rich quickly and honestly. H. L. Barber, Pub., 431, 32 W. Jackson Blvd., Chicago

"Across-the-Fence" Talks

Just Between Neighbors Whose Experiences Make These Discussions Profitable

ALFALFA TABLOIDS

Alfalfa should be grown on every farm. It is a profitable crop to sell. It enhances the value of the farm. It beats all other crops in yield, in feeding value, as a drouth resister and as a soil enricher. It is the best cattle feed in the world, and can be used successfully as an exclusive dairy ration. Swine pastured on alfalfa, with a little grain added, make more gains at less expense than on any other feed. Horses, sheep and poultry relish it green or cured as hay.

"Alfalfa" is Arabic for "the best fodder," and the nomads of Asia fed it to their herds thousands of years ago. The Spanish soldiers under Cortez brought it to America for their cavalry horses. Where they camped alfalfa sprang up from the seeds that were scattered on the ground.

Alfalfa is a perennial. After it is once established it improves each year. Usually it pays better to keep an old field rather than to rotate. When plowed under, the crops following alfalfa give phenomenal yields. Potatoes on alfalfa sod have made as high as 600 bushels to the acre.

Alfalfa is your great deep-tilling machine. Its tap roots go down to bedrock, and loosen up the subsoil, permitting the air and water to penetrate deeply. The roots bring up stores of fertility that otherwise would remain unused below the reach of the plow.

Alfalfa is a lazy man's crop. One plowing and one seeding fixes it permanently, yet an occasional disking is recommended by some growers to kill weeds and conserve moisture. From two to four cuttings a year are harvested, and in the far south even more. Three tons of cured hay have been secured from one acre at a cutting, but the average is around a ton and a half. The baled hay has been selling for $20 a ton for the past few years in Illinois and surrounding states.

An alfalfa field is like a government bond—you clip its green coupons as they mature and have your bond left—indestructible and prolific and sure.

When farmers let up a few notches on wheat and oats, put a portion of their land in alfalfa, and feed it to pure-bred or high-grade live stock—then will prosperity with a capital P drive up to the door and sing out: "Hello Folks; I've come to stay!"

SUMMER ALFALFA CULTURE

"The problem of keeping a stand of alfalfa to many farmers, especially to those east of the Mississippi River, has been a bigger problem than that of getting one," says Professor George Livingston of Ohio College of Agriculture in his recent book on field crops. "Weeds seem to be the greatest factor with which the grower has to contend. Many farmers say they have solved the weed problem by practicing a system of cultivation. Some farmers cultivate each spring with a spring tooth or disk harrow, just before the young shoots start to grow; others not only cultivate in the spring but after each cutting throughout the season. This practice kills the weeds and at the same time loosens up the soil, incorporating any vegetable matter that may have accumulated from fallen leaves or from other sources. It has been demonstrated that alfalfa will not be injured by severe cultivation, after it is once well established. Cultivation is to be recommended only for fields in which the alfalfa plants have become well established, usually after they are two years old. Sometimes weeds are troublesome in fields during the first year, in which case the fields should be run over with the mower, clipping off the plants and weeds."

Joe Wing, the well known alfalfa enthusiast and authority, uses an eight-foot lime and fertilizer distributor, with which he top-dresses his alfalfa. This

MORE and BETTER WHEAT from the acre at less cost to grow.

—Two hundred to four hundred pounds of

Armour's Fertilizers

drilled in at seeding time will promote rapid root-growth, insure early maturity, heavy grain and more of it; reduced bushel cost; a good clover catch and a more profitable grain crop—

IT'S THE YEAR the world needs the grain.

Write for "More Money From Wheat."

ARMOUR FERTILIZER WORKS Dept. 103

Chicago, Ill. Baltimore, Md. Nashville, Tenn. Greensboro, N. C.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

should be done before the field is harrowed so the fertilizer becomes well mixed in the soil. He urges the using of 300 pounds per acre of acid phosphate annually. If the soil is deficient in potash, a fertilizer containing both available phosphoric acid and potash should be used on alfalfa.—J. W. H.

THE CANVAS STACK-COVER

Of course it would be a good thing if every farmer could have sufficient barn room for his hay crop, but, unfortunately, it frequently happens that many farmers do not have nearly enough barn room for this crop, even in a season of normal production, and then much hay must be stacked in the fields. In these cases it pays to make the best of the situation by taking considerable pains to build the stacks in the best manner possible and then covering them with good canvas covers. While there is bound to be some loss in stacked hay, even under the best of conditions, the loss will be very much less in a properly built stack than in one that is poorly constructed, and the canvas cover will help to reduce the loss to a minimum.

Many farmers now use these canvas covers, and their experience is that one of these covers will practically pay for itself in a single season. They are comparatively inexpensive, costing from $2.00 up to $20.00, according to size and quality. In the end, however, it is the cheapest to invest in a cover made of a good quality of canvas. Such a cover will last many seasons, while one made of inferior material will go to pieces in one or two seasons.

Good canvas covers come in handy on the average farm at all seasons of the year for various purposes besides covering the hay stacks. During hay harvest loads of hay that are caught in the field by sudden rain storms can be covered in a few minutes and much extra work afterwards can thereby be avoided. During fall and winter ricks of fodder can be afforded protection by their use. In fact, the covers can be kept in service most of the time throughout the year.—W. F. P.

FARM GATES

Certain of the gates on every farm are used several times a day the year round, and if one or more of these gates is a rickety, sagging affair, that has to be lifted around every time it is opened or closed, much time is spent needlessly. The good manager will either construct gates himself that will give satisfactory service, or he will buy gates from the manufacturers.

For good reason steel gates of the swinging type are rapidly displacing wooden farm gates of various types. Wherever gates are to remain permanently the steel gate possesses obvious advantages. It possesses greater strength and durability than any wooden gate, therefore it lasts longer, it does not require constant repairing, stock cannot break it down, and, finally, it presents a better appearance. Everything considered, the steel gate that is constructed of durable, rust-resisting materials is not so expensive in the long run as the flimsy wooden gate, and any farmer who is in need of new gates will do well to consider fully the merits of the improved types of gates now being turned out by manufacturers.

A satisfactory farm gate, whether constructed of lumber or steel, should be easy to handle by the farmer's small son as well as by himself. The ease of handling a swinging gate depends to a large extent upon the manner of hanging it. It must be accurately and securely put in position, for it must swing squarely from the posts at all times. Each swinging gate should be attached to solid wooden posts set firmly in the ground, or to steel or concrete posts. Steel posts should be embedded in concrete. Solid posts give a gate without sag.—W. F. P.

IN THE WORLD OF AGRICULTURE

More than 26,000,000 trees have been planted in two Norway countries bordering on the sea since a Bergen tree-planting society was formed 13 years ago.

In rural schools in Missouri, the girls are organized into pick-and-shovel clubs, under the direction of national Congress of Mothers, to aid in the good roads movement.

Brazil owes her wealth in coffee to a monk who planted two seeds in a monastery garden in Rio de Janeiro in 1754, from whence the plants spread throughout the country.

One of the richest soda deposits in the world is Lake Magadi, in British East Africa. Its area is over two miles and the soda contained in it is estimated at 200,000,000 tons.

WHEN DINNER COMES

One Ought to Have a Good Appetite

A good appetite is the best sauce. It goes a long way toward helping in the digestive process, and that is absolutely essential to health and strength.

Many persons have found that Grape-Nuts food is not only nourishing but is a great appetizer, and children like the taste of it and grow strong and rosy from its use.

It is especially the food to make a weak stomach strong and create an appetite for dinner.

"I am 57 years old," writes a Tenn. grandmother, "and have had a weak stomach from childhood. By great care as to my diet I enjoyed a reasonable degree of health, but never found anything to equal Grape-Nuts as a standby.

"When I have no appetite for breakfast and just eat to keep up my strength, I take 4 teaspoonfuls of Grape-Nuts with good rich milk, and when dinner comes I am hungry. While if I go without any breakfast I never feel like eating dinner. Grape-Nuts for breakfast seems to make a healthy appetite for dinner.

"My little grandson was sick with stomach trouble during the past summer, and finally we put him on Grape-Nuts. Now he is growing plump and well. When asked if he wants his nurse or Grape-Nuts, he brightens up and points to the cupboard. He was no trouble to wean at all—thanks to Grape-Nuts."

Name given by Postum Co., Battle Creek, Mich. Read, "The Road to Wellville," in pkgs. "There is a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

The Greatest Cleanser of All.

CLEANS WITHOUT SCOURING

Makes soap without boiling. Turns well water into rain water. Makes cheapest, most efficient washing fluid — to be used without powders, chips, etc. Supreme as disinfectant and vermin exterminator. Ask for booklet of other uses.

PENNSYLVANIA SALT MFG. CO.
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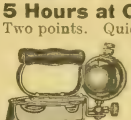
Comfort Self Heating Iron
5 Hours at Cost of One Cent



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WILL YOU TAKE ORDERS?

Many earn $50 to $60 every week demonstrating our 1915 Model Steel Automatic Handi-Tool. Lifting and Pulling Jack, Wire-Stretcher, Spacer and Grubber, Post and Stump Puller, Tire Tightener, Cable Maker, Press, Vise, Hoist, Wrench, etc. Operates automatically. Has power of 40 men. Guaranteed for life. Spare time or permanent work. Demonstrator loaned. Credit given. Write for factory agency offer.
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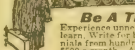

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New patented lock stitch awl. Sews anything, shoes, harness, buggy tops, etc. Sells like wildfire. Low price, big profits. Enormous demand. Write quick for sample to workers. Thomas Awl Co., 7552 Home St., Dayton, O.

WANTED AN IDEA! Who can think of some simple thing to patent? Protect your ideas, they may bring you wealth. Write for "Needed Inventions," "Patent Buyers," and "How to Get Your Patent and Your Money." RANDOLPH & CO. Patent Attorneys, Dept. 193, Washington, D. C.

Men Women Wanted. $75 month. Government jobs. Vacancies constantly. Write for list positions now obtainable. Franklin Institute, Dept. W-117, Rochester, N. Y.

PATENTABLE IDEAS WANTED. Manufacturers want Ideas on patents. Send for 3 free books. Inventions wanted. etc. I get patents or no fee. Manufacturing facilities. RICHARD B. OWEN, 97 Owen Bldg., Washington, D. C.

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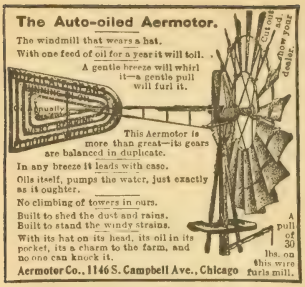
The Auto-oiled Aermotor.

The windmill that wears a hat.
With one feed of oil for a year it will toil.
A gentle breeze will whirl it—a gentle pull will furl it.



This Aermotor is more than great—its gears are balanced in duplicate.
In any breeze it leads with ease.
Oils itself, pumps the water, just exactly as it oughter.
No climbing of towers in ours.
Built to shed the dust and rains.
Built to stand the windy strains.
With its hat on its head, its oil in its pocket, its a charm to the farm, and no one can knock it.
A pull of 30 lbs. on this wire furls mill.
Aermotor Co., 1146 S. Campbell Ave., Chicago

Save Work, Time, Money
By using our low down steel wheel wagon

Electric Handy Wagons
saves high lifting, lighten draft, don't rut roads. Spokes don't loosen—wheels don't dry out or rot. Write for free book on Wagons and Wheels.
Electric Wheel Co., 27 Elm Street, Quincy, Ill.

In use over 50 years
$3 Package guaranteed to give satisfaction or money back. $1 Package sufficient for ordinary cases.
MINERAL HEAVE REMEDY CO., 437 Fourth Ave. Pittsburg, Pa.

Hogs Do Better
They thrive, fatten and ward off disease with a fresh, clean water supply in place of the dirty open trough. Equip every hog-lot with
THE DAISY HOG WATERER
It's scientific, foul-proof, everlasting; simplest and easiest to attach. The cheapest hog insurance you can buy. Ask dealer or send for circular—$1.50.
Quincy Wire & Iron Works; Pat., Boone, Ia.

"Worm Destruction"
tells how to destroy worms in **Hogs, Sheep and Horses** and is sent free on request.
WM. COOPER & NEPHEWS
167 W. Huron Street, Chicago, Ills.

THE COMMERCIAL HOG

Great progress has been made by the American hog breeder, while the feeding problem has been neglected. Hog growers have not realized what an important factor feeding is in the economic growing of pork. While good breeding is the foundation of success, and every opportunity to improve type and fecundity should be taken advantage of, the feeding problem is of paramount importance.

In feeding the breeding swine we are confronted by the two questions,—how much to feed and what feeds will serve best to build health, vigor and fecundity. As to the amount, we are limited on the one hand by the actual physiological needs of the animals for the best development, and on the other by the increased cost of feeding a liberal ration of grain, and the possible danger of impairing their breeding qualities by excessive fat.

Food will produce good results only when properly balanced, so that the animal will be well nourished and the digestive system kept in a healthy condition. The deficiency of corn as a sole ration has been made emphatic. Results of numberless experiments emphasize the fact that rations containing a large amount of ash and protein are better adapted to promote the growth and development of breeding swine than corn alone. However, the increased cost of concentrated protein feeds makes their use in large quantities very expensive, but fortunately it is easy to obtain these elements in an economical way by utilizing proteinaceous forage and pasture crops, and providing the hogs with large yards and good grazing.

An ideal combination of feed consists of clover, alfalfa or blue-grass pasture, supplemented with a limited amount of grain. Skim milk is an excellent feed, and, mixed with wheat middlings in the form of a thick slop, makes an ideal feed for breeding hogs. A small feed of corn may safely be fed to brood sows and animals that are lacking in condition. It many cases, when pasture crops and skim milk are not available, the protein problem may be solved by feeding a small amount of digester tankage. Oil meal is an excellent source of protein, if the ration is deficient in laxative properties. Other concentrates may be used with excellent results, the chief point being to feed bone, blood and muscle building food in the right proportions. When pasture and green forage crops are not available, clover or alfalfa run through a cutting machine and steamed and fed with mill-feed will give the necessary bulk and succulence to the ration.

The value of bulky and succulent feeds is recognized by the most intelligent feeders. Succulence balances the effect against the dry, concentrated feeds—it possesses general tonic and corrective qualities, and stimulates the appetite for a more economical use of the other feeding stuffs. Bulky foods act as dividers in assisting in the more complete digestion of concentrated foods. Succulence and bulk are furnished by such foods as forage crops, pasture grasses and root crops, and are usually inexpensive, very desirable, and valuable in feeding the breeding herd at all seasons of the year. These green and bulky feeds have a loosening and relaxing effect upon the flesh, and are excellent food for the brood sow toward the time of farrowing, as they overcome the tense condition of the muscles resulting from a dry grain diet.

If the number of sows is considerable the feeding of grain cuts largely into the profits. The mature sow that is not suckling a litter of pigs does not require heavy grain feeding. If she is given plenty of green feed she will thrive with but little grain. During recent years the importance of having an abundance of forage and pasture crops for the breeding herd is more and more apparent. By the use of a few acres for growing these crops the cost of maintaining a breeding herd may be greatly reduced, and the animals will be far more thrifty and vigorous.

The same thing holds true in feeding the boar. Since he is such an important factor he cannot be too well cared for. He should be kept in good condition and in as comfortable quarters as possible. Feed him the kinds of feed that are adapted to his requirements, and vary the amount according to the services he is required to perform. It is necessary to feed him with foods that will produce lean as well as fat

and give health and vigor. With such grain as ground oats, oil meal, wheat middlings and a very little corn, supplemented with such bulky and succulent feeds as alfalfa, clover, peas and roots he will be vigorous, thrifty and serviceable for many years. Succulence and bulk in his ration will prevent injury from overfeeding, and he will be more contented than when he is fed a less bulky ration of richer foods.

The practice of confining the breeding boar in a small pen and feeding him a ration of fat-producing foods cannot be too strongly condemned. The character of the feed, important as it is, is not the only thing which needs attention in the care of the boar. Give him plenty of room for exercise and if he does not exercise freely, take a horsewhip and walk him around occasionally. Ordinarily, however, if he is given a good-sized pasture or yard, he will take sufficient exercise without resorting to this trouble.

BEEF RAISING FOR THE BUSY MAN

The American people can not live without beef. Just where they get it is a matter of small importance. Beef they want and beef they will get. The question is are we going to let it come in from China or South America, or we going to raise it ourselves? This is a matter of vital importance to the American farmer.

Beef raising fits well into a diversified scheme of farming. On many farms, especially in the corn belt, grain raising is the principal source of income. Some kind of live stock, usually cows, are kept. The farmer knows that he cannot keep up the fertility of his farm unless some kind of live stock is kept. But it takes time and money to keep dairy cows well. The average farmer who raises grain for a living does not have much time to care for dairy cows as they should be cared for to yield a profit.

Here is where beef raising comes in. A man can keep twenty beef animals, and do it easy, where he could not properly care for more than ten dairy cows. When a man has a good alfalfa hay and corn silage he can raise beef profitably. There is money in beef for the man who knows how to get it out. The business demands study and attention, just as other industries do.

PRECAUTIONS FOR THE FARM HOME

It is estimated by some authorities that about forty per cent of the meat consumed in this country is uninspected.

Recently there was received at the Department of Veterinary Medicine, Colorado Agricultural College, some meat samples from hogs which a farmer killed for home use. Upon examination of these samples, was found an immense number of tape-worm cysts (so called measles) which if taken into the body would cause tape-worms.

Another instance: Farmer killed seven hogs; keeping three for home use, using heads of same for head-cheese. The other four hogs were presented for inspection at the college, where upon examination, tuberculosis was found in all four heads. Upon knowing this, the head-cheese at home was immediately discarded.

These instances show the average condition of danger in rural life, from some of the farmers not taking available and proper precautions in having meat inspected.

When animals of any kind including poultry are killed on the farm for home consumption, if possible it would be well always to submit the carcass at the time of slaughter for inspection to a graduate veterinarian, in order that if there be any disease among live stock as tuberculosis, tape-worm cysts, etc., the farmer's family, also his live stock, could be protected in time so as to prevent the spread of disease, also from further pecuniary loss. This is the age of sanitary medicine and prevention, instead of cure.—H. S. Eakins, Col. Ag. Coll.

SO PADLOCK WON'T RUST

Take a piece of rubber or leather such as is usually used for buggy tops, 5 inches long and 4 inches wide and tack it one inch from the top of the lock. This forms a flap which thoroughly protects the lock from rain and snow. Consequently the lock does not rust, nor is the keyhole filled with ice or dirt.

TO TEST TURPENTINE

To test the purity of turpentine drop a small quantity on a piece of white paper and expose to the air. No trace will be left if the turpentine is pure; but if it contains oil or other foreign matter, the paper will be greasy.

Same test can be applied to gasoline.

INSOMNIA
Leads to Madness, If Not Remedied

"Experiments satisfied me, some 5 years ago," writes a Topeka woman, "that coffee was the direct cause of the insomnia from which I suffered terribly, as well as extreme nervousness and acute dyspepsia.

"I had been a coffee drinker since childhood, and did not like to think that the beverage was doing me all this harm. But it was, and the time came when I had to face the fact, and protect myself. I therefore gave up coffee abruptly and absolutely, and adopted Postum for my hot drink at meals.

"I began to note improvement in my condition very soon after I took on Postum. The change proceeded gradually, but surely, and it was a matter of only a few weeks before I found myself entirely relieved—the nervousness passed away, my digestive apparatus was restored to normal efficiency, and I began to sleep restfully and peacefully.

"These happy conditions have continued during all of the 5 years, and I am safe in saying that I owe them entirely to Postum, for when I began to drink it I ceased to use medicines."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

Postum Cereal—the original form—must be well boiled. 15c and 25c pkgs.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly.** 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a Reason" for Postum.

—sold by Grocers.

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Prices of good wood shingles today are higher than the roof. Not only that, but Edwards Metal Shingles lasts five times as long, and are five times easier to lay. One man can do it all—easily. Edwards Metal Shingles can't blow off. The famous Interlocking Device keeps them on—the wonderful "Tightcote" process makes them weather-proof and water-tight.

Save Every Way

No more roof troubles. No after expense. Edwards Metal Shingles save every way. We can show you an avalanche of letters from Edwards users telling of better protection and money saved.

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That's another advantage. A $10,000 bond is our guarantee to you that your buildings are lightning proof when protected with Edwards Metal Shingles.

Thirty days more and prices must advance because of increasing cost of raw materials. So, NOW is the time to settle that roof question, once and for all. Write today for temporary bargain prices and Catalog 660. Give size of roof. We help you lay it. Act NOW—Prices are surely going up!

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MORE MONEY For Your Hogs

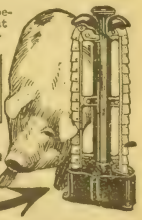
Healthy Hogs **fatten more readily,** bringing you quicker, bigger profits. The most economical, easy way to keep your Hogs healthy is to use

Meyer's Hog Lubricator

Latest and best way to oil Hogs. **New idea.** No Valves, Springs, Wheels or Gears. **Nothing to get out of order.**

Most simple, durable and efficient device of the kind. New system, prevents oil waste. Helps to cure and prevent Scurvy, Lice, Nits, Mange and other Vermin-caused Skin Diseases. Also Cholera, Hoof and Mouth Disease.

Effective for Worms because Hogs like to eat Meyer's Antiseptic-Disinfectant Hog Oil.



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30 Days FREE TRIAL

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GET OUR LARGE FREE CATALOG

An unobstructed Continuous opening. Doors absolutely tight but will not swell. Permanent steel ladder attached to front. Everything, first class and prices right. Liberal discount to reliable agents. Wanted in every town.

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Box 65 HUDSON FALLS, N.Y.

VARIATIONS IN THE CREAM TEST

Some Causes and Effects Which Lead to Misunderstandings

By John Underwood

THERE is probably no one thing in connection with commercial dairying which causes the patron so much uneasiness as the variation of the test of cream sold to receiving stations and creameries. This variation may not only result in the patron being dissatisfied, but also causes the creamery buying the cream uneasiness in holding harmonious relations with the patron. The complaint of test variation is on account of the patron not having a full understanding of the causes which effect the density and percentage of fat in hand separator cream.

It is the policy of all reputable creameries that their employes be very careful to obtain accurate results in sampling and testing. Unless the sample represents a fair average of the cream delivered, the test, while correct of the sample, will not be a correct test of the cream delivered. The first requisite therefore for a correct test is an accurate sample.

It must be well understood by patrons who have observed the workings of the separator, or who have tested the cream themselves with hand farm testers, that there is a variation in the percentage of fat in the cream. A variation of from 5 to 8 per cent in test, with no change in the cream screw, is not at all unusual and this difference is chargeable to the varying condition of the machine from time to time. But I have known of instances where there was a variation of from 8 to 15 per cent interests, due to careless handling of the separator milk or cream. The variation of the speed of the bowl of the separator causes a difference of from 2 to 15 per cent in test of the cream, depending on the variation of the speed. The variation in steadiness of the bowl makes a wide difference, depending on the amount of vibration. The amount of flush water used makes a difference as great as 10 per cent in extreme cases, and from 1 to 5 per cent in ordinary cases.

Temperature of the milk makes a difference of from 1 to 5 per cent greater variation being caused in extreme cases. Acid developed in the milk will have an effect on cream density. This is not the case when separating is done at milking time, but when the night's milk is held until morning, or vice versa, as is the case on some farms. As the separator bowl clogs the cream will gradually become thicker until the cream will not flow.

Another cause of variation in test is imperfect straining of the milk before separating. The milk should always be strained through a fine wire strainer into cans. Over the receiving can a piece of closely woven cotton cloth should be placed. For convenience this can be fastened with a strap around the can. This will catch all sediment, and will give the separator clean milk. If the separator is fed unevenly, or at any time during the run the inlet should be clogged with dirt so that the bowl does not take the full inflow of milk, wide variation in test of cream must be expected.

Users of separators may sometimes state that their cream screw has not been changed in years, and that their cream should test now as it did years ago. The fact that the screw has not been changed is good reason why the cream test should not be the same as when the separators were new. With use the cream screw wears off and takes the cream further from the center of the bowl, and therefore produces a thinner cream. Thick cream is produced by drawing the cream from the center of the bowl and thin cream by drawing from a point nearer the outside.

If the bowl is not washed properly after each operation this will also affect the test. If the openings are not all clean and free from dirt the capacity is effected. The separator bowl removes substances which no system of straining will remove, and if this matter is allowed to remain in the bowl, even for an hour after finishing the run, it is an ideal breeding place for millions of the worst kind of bacteria.

Under average farm conditions it is impractical to operate the separator in such a way as to secure an absolutely even density of cream, but every care should be used to obtain as even work as possible. The patron of a creamery can at little expense secure his own tester, and its use will better satisfy him regarding his treatment, and also give him insight into many things of inestimable worth. The man who knows the most about his busines is always the best satisfied.

The well-appointed dairy barn and herd at the Soldiers' and Sailors' Orphans Home, Xenia, O.

MAKING CREAM CHEESE AT HOME

We make our own cheese for home use, and consider the product practically equal to that made in the factory. As there are perhaps some readers of Farm News who do not know how to make this highly nutritious food I will give our method.

To make a three-pound cheese that is good after four weeks, and better with age, we take five gallons of milk, cream and all, if it has set for a while, and heat till about the temperature of milk which has just been drawn from the cow. We then dissolve one-half of a No. 2 rennet tablet in one-half teacupful of cold water, stir it well into the milk, add one tablespoonful of salt to the milk, and then stir. We remove it from the fire and let stand from three to six minutes, when it becomes thick, like clabber. As soon as it becomes solid clabber it is ready to break up.

We then stir the clabber, or curd as it is commonly called, which separates the curd from the whey, and let it stand until the curd settles to the bottom. With the hand we press the pieces, say one inch thick, put into a crock and pour hot water over it. It is then stirred with a spoon and let set till it seems tough, like leather, which will be in about three minutes.

We now take it out of the water, and again cut in pieces, as it has run together, salt as for butter, and it is ready to be pressed. For the press we take a gallon syrup can and melt off both ends and make ends for the can from one-inch boards, to just fit inside. We set the can over one board and line it

(Continued on Page 19)

$2 Brings You This Big LIFE-TIME GUARANTEED NEW BUTTERFLY Cream Separator

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At Our Risk. Then if pleased you can keep it and pay only a little each month out of your extra cream profits until the machine is paid for. In this way the separator itself will earn its own cost—and more before you pay. You won't feel the cost at all. If you do not need a large capacity machine you can obtain a smaller one on payments as low as

Only $2 a Month

No Interest To Pay—No Extras

The prices we quote include everything. You have no extras to pay—no interest. You buy direct from the manufacturer and save nearly half. We give ***30 days' trial*** on your own farm. During this time if you don't find the New Butterfly the lightest running, easiest cleaning, and best all around separator on the market (regardless of price) you don't need to keep it. Just send it back at our expense and we will refund what you paid, including all freight charges both ways.

Top of Milk Tank is Only 38 in. From the Floor

Skimming Device Made of Aluminum One-piece Easily Cleaned

Used on More than 30,000 Farms

Over 30,000 New Butterfly Cream Separators are now in use. No doubt some of them right in your own neighborhood. We have been advertising in this paper for years — the publishers know us and know we do just as we agree. Read these letters from just a few of thousands of satisfied owners:

Seven Years Old—Runs Like New

"The Butterfly Separator we purchased of you about seven years ago is still doing fine work. I recently took it apart and cleaned the gears with coal oil. Now it runs like a new machine and works as well as ever."

H. S. Stonebraker,
Kokomo, Indiana.

Twelve-Year Old Girl Runs It

"We would not do without our Butterfly Separator or exchange it for all the other machines we have seen. Our little girl, 12 years old, runs it like a clock."

Mrs. P. E. Rude,
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Made $61.39 More From Same Cows

"We made $78.61 worth of butter before we had the machine and in the same length of time, we made with the Butterfly Separator $140.00 worth of butter from the same number of cows."

Thos. S. Kermosky,
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"We don't see how we got along without the New Butterfly as long as we did. It runs lighter, is easier washed and kept clean than the higher priced machines in this neighborhood."

R. E. Morrison,
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Fill Out The Coupon MAIL TODAY

Why not get one of these big labor-saving, money-making machines while you have the opportunity to do so on this liberal self earning plan? Let us send you our big new illustrated Catalog Folder showing all the machines we make and quoting lowest factory prices and easy payment terms. We will also mail you a book of letters from owners telling how the New Butterfly is helping them make as high as $100 a year extra profit from their cows. Sending coupon does not obligate you in any way. Write today.

ALBAUGH-DOVER CO. 2272 Marshall Blvd. CHICAGO, ILL.

New Butterfly Cream Separators are the only ones having the patented one-piece aluminum skimming device, very easy to clean. Light-running vertical shaft; frictionless pivot, ball-bearings bathed in oil, low down, self-draining milk tank; closed drip-proof and dust-proof bottom. Simplest and most sanitary machine on the market.

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A SOLID PROPOSITION to send fully guaranteed, a new, well made, easy running, perfect skimming separator for $15.95. Skims warm or cold milk; making heavy or light cream. The bowl is a sanitary marvel, easily cleaned.

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A New Scientific Invention! Just the churn you need and to prove it we will ship it to you and let you try it 30 days. Don't send a cent until the 30 days are up. If you are not satisfied then, send it back and you will not be out a penny. We'll stand return express charges.

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Simple, compact, convenient. Removes the drudgery of churning-day. Gets all the butter-fat, makes more and better butter. Runs easy; saves effort. Easy to clean.

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New scientific principle. A few easy turns of the crank brings the butter. A child can operate it.

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DEVELOPING DAIRY CAPACITY

Every dairy cow has an inherited tendency of function, or dairy capacity, to produce milk and its derivatives. To develop this inherited capacity to its most profitable limit should be every dairy farmer's foremost object. His largest returns lie in this endeavor. Any man open to conviction can be shown to his entire satisfaction that his net profits can be substantially increased by having cows that have been fed and developed on a variety of feeds that will promote their best and most useful development.

There is probably no question that is any more perplexing than the growth and feeding of dairy heifers so as to secure their most useful development. There is a wide diversity of opinion among the leading dairy authorities as to the kind of feeds best adapted to promote the desired development. One class of dairymen believe that by feeding the heifers a highly nitrogeneous ration they will secure a more rapid development, which is undoubtedly true. However, it has always been a question in the writer's mind if such forced development is desirable. Is it possible for a man to grow and develop his heifer calves on such nitrogeneous feeds, and at the same time develop their capacity to eat, digest and assimilate large quantities of succulent and bulky farm feeds? Let me suggest where we may drift if we do not consider these matter more care fully.

In many localities in the eastern states, where roughage is scarce, the cows have been kept on concentrated rations for so long a time that they have lost their capacity. Some dairymen in these localities feed as high as four to six pounds of digestible protein a day to each cow. Good, succulent and bulky feed is scarce, and they have fed these rich concentrates in an effort to piece out rather than supplement their farm-grown feeds. Now they have cows without capacity for taking their farm-grown roughage and turning it into profit for them. This is where we may all drift if we do not develop our dairy heifers on more bulky rations. Their digestive systems will not be developed for economical production. With high-priced grain feeds we must have cows that are capable of taking our feed, our roughage and some grain and turning it into profit for us.

If we secure economical producers of dairy products the young heifers must have certain conditions surrounding them if they equal, or excel, their dams. They must have liberal rations from the start, not heavy concentrates, but feeds rich in bone, muscle and blood-making material, and containing plenty of bulk and succulence. Good corn silage is an excellent bulky and succulent feed. Clover, alfalfa and mixed hay will make up the balance of the roughage. These bulky feeds, supplemented with a very small quantity of oats and wheat bran, will make up a ration that cannot be excelled for developing the young heifers.

They must have plenty of light, air and exercise if they build up healthy and vigorous systems. Nature's laws cannot be ignored in developing the heifers. The man who replaces the cows in his herd with heifers that have been developed on rich concentrates, and kept in close confinement, away from sunlight and fresh air, will find his animals constantly losing in vitality and reproductive qualities. The vital organs must be developed by plenty of pure air and exercise, which at the same time increases appetite for roughage. Then the digestive organs and functions must be developed by plenty of nourishing bulky and succulent feeds and grain to balance it.

The value of the dairy cow should be measured by her ability to produce dairy products economically. Many large producers are not economical producers. My point is that the heifer that is grown in the open, with exercise, plenty of fresh air, and succulent and bulky feeds to extend her capacity and develop her digestive system, begins her life work under more favorable conditions than the heifer that has been grown inside, and fed a highly concentrated ration of grain and by-product feedstuffs to stimulate an abnormal development at too early an age. Am I right or wrong?

After we have developed the heifer's

capacity to eat, digest and assimilate large quantities of feed the next important step is that of educating and training her to take her place as a member of the working herd. Place her in a box stall two or three weeks before she freshens. Handle her frequently, but do not actually start her milk. Drop off pretty well on the grain feed, and give her udder frequent greasing with lard to prevent chapping and keep down fever. Kind treatment and careful handling and getting her accustomed to your company is a great thing for the heifer at this period.

After the calving period is safely over go slow in adding to her grain ration, and do not overfeed her. Regulate the amount of feed to the quantity of milk she gives. She needs to grow and develop during the first lactation period. It is best not to have her freshen again inside of fourteen or sixteen months. Milk her at least twelve months to develop the long milking period, and see to it that she gives milk for the whole year. The training she receives for the first milking period has a great influence upon subsequent periods.

The man who has charge of the heifer during her first milking period has largely to do with her future usefulness. It is no chance operation, as many seem to believe. The profitable dairy cow of the future must be bred, developed and trained on the farm, and in the best accepted ways. The heifer that is well born, well cared for, and properly fed with the proper kind of feeds at the right time and in the right amounts, and given proper training, will be far more profitable as a dairy cow than the heifer that has been improperly fed and managed during the first three years of her life.

WHOSE FAULT IS IT?

A few days ago I heard a business man say that he was just getting out around from a serious sickness, brought on by drinking a glass of milk that was not pure. He did not look at all well at that time, and from a bit of experience I had myself a number of years ago, I believe it may be a long time before he does fully recover his health. At a hotel in the state of Ohio, I drank a glass of milk for supper. In the night I woke deathly sick. I never had any sickness take my strength as that did in so short a time. I had hard work to get out and call for a doctor. That sickness whittled my strength away at lightning speed, and it was a long time before I was well again.

Now, I do not know where the fault lay in either of these cases. It may have been out at the farm or after the milk came to the hotel. The point now is, how we of the farm may do our part toward securing the health of the men and the women and the little folks of this country. That is one thing every farmer who has a heart in him is anxious to do; it is what he will do, if he knows what is to be done.

It does not take milk long to take to itself terrible possibilities. No matter how pure it may be when it comes from the cow, if not properly protected, it will speedily gather out of the air about it something that will make it deadly poison, provided that something be near at hand. We hear a great deal about

Get My Guaranteed Separator On Trial FREE

There's no string to this offer. Some concerns say "free trial" and then ask you to pay money in advance. With me it's different. I ask you to pay no deposit—don't ask you for notes, don't ask for any kind of "security."

If You Really Want a Separator, I'll Send You the "Milwaukee" Free

When it comes to you—use it for two whole weeks—14 days—before you pay me one cent or even decide to buy. If at the end of the two weeks you are willing to part with the separator, write me and I'll take it back. I'll pay return freight and not charge you for its use.

That's the way to decide on the kind of separator you want. Let the manufacturer take the risk. That's what I do. Now take me at my word. Send coupon below for my special proposition and **FREE Offer Open to Everybody.** Look over the figures and facts I'll send, then ask yourself if this isn't the opportunity of your life to try the wonderful

SANITARY **Milwaukee** CREAM SEPARATOR

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This is not only the squarest business proposition ever put before you on a Cream Separator, but it's also the best separator ever brought to your notice.

This fact is indisputable. The sanitary features of the "Milwaukee" and its higher efficiency has placed it in the front rank—away above other separators. Note some of our improvements:

The "Milwaukee" is **lighter** in weight, **simpler** in construction, **more efficient** in performance.

Discs are of aluminum, non-rusting, non-corrosive—**without** perforations or soldering. Also interchangeable. Self-balancing.

Bearings made from hardened steel, phosphor bronze bushed. All gears enclosed.

Has Automatic "Never-Slip" Safety Clutch in handle.

Can be cleaned quickly, without aid of wires, brushes, etc.

Separator takes 3 different sizes of bowls. Start with low capacity and build up by purchasing larger bowl—**not a new separator.**

Get Full Details of This Remarkable Separator and Free Trial Offer

Send coupon or postal today for my literature which pictures and describes the "Milwaukee" and learn all about why I am willing to let you have it free on trial for two weeks. The above offer is open to everybody. First come, first served. Write me personally, at once. Yours truly,

Milwaukee Separator Company *Willis Collins*
272 Sixth St., Milwaukee, Wis. President

Willis Collins, Pres., Milwaukee Separator Company 272

Dear Sir:—I am interested in your remarkable FREE trial offer. Send me full particulars about the Milwaukee Sanitary Cream Separator, also low **direct from factory to user prices** on 500, 750 and 900 lb. capacity machines.

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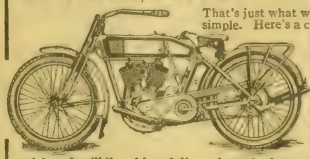
THIS MOTORCYCLE GIVEN AWAY As a Prize FREE



That's just what we mean—given free as a prize. Our plan is easy and simple. Here's a chance to get a motorcycle with the least possible effort. Send us your name for our free plan. You'll scarcely believe us when we tell you how easy it is to get this machine. An easy plan. No fake puzzles to work. If you will give us just a little of your spare time, you can have this machine; but be sure and

Send Your Name Today

This is a genuine twin-cylinder—two-speed, latest model "Indian" machine, the latest and last word in motorcycle making. The machine is a brand new 1915 model and will be shipped direct from the factory so as to insure that you get only the latest and best. Don't fail to send us your name. Our plan is to advertise our business, and if you will help us you can have the machine. It will not require a solid week of your time to get this machine worth $250.00. Isn't that worth a try? Where else can you earn a $250.00 motorcycle in a week? Be quick—that's the main thing—and address **D. BRYDON, MANAGER, R215 S. WITTENBERG AVE., SPRINGFIELD, OHIO**

Detroiter

EIGHT CYLINDERS

$1295

Lowest price EIGHT in the world; 55-60 horsepower; the best hill climber ever built. Catalog on request, showing all models, from $850 up. Write for copies.

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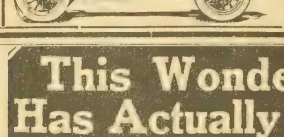


germs in these days. Few of the average farmers really understand what is meant by the term. It is not necessary that we should understand all about the nature of these enemies to good health; it is enough here to say that if there is any bad smell around, or if the milk in any other way comes in contact with poisonous growths, even if they are so small that they cannot be seen with the naked eye, we shall soon find these dangerous growths in the milk, where they multiply terrible fast. Heat will kill these germs, but the milk never is quite what it ought to be. The same thing may take place when the things milk gathers out of the air, perhaps not poisonous in themselves, become so combined with the things which are in milk that chemical change takes place.

So if we want to do our part toward keeping milk pure, we will see to it that the pails, buckets, pans and cans we use are thoroughly washed, first in cold, then in hot and again in cold water. No cloths that are unclean can be used, either.

Then, too, we must take our milk out of the stable just as soon as we can after milking, for the air of the cleanest stable has many of the dangerous little enemies of health drifting about in it. These settle in open milk and bring about the chemical change just spoken of. As the natural heat of the milk tends to cause germs to grow fast, it is wise to cool the milk off as soon as we can. This is where an aerator is of great service. If we have none and cannot get one, we surely may stir the milk thoroughly some way, so that pure air shall get all through it.

Then, if we store our milk in a clean place, and keep the temperature down reasonably low, we may be fairly well assured that so far as we are concerned no one ought to become infected by it. Our responsibility of course, does not cease until the milk has been delivered to the proper authorities. If we take it ourselves to the distributing depot or to the station for shipment, we need to do all we can to keep it from getting too warm, for it is warmth that causes bacterial growth.

All along the way we need to be careful that no foreign material shall get into our milk. Laws have been enacted in most every state along this line, but these ought not to have the slightest bearing on the farmer; he ought to be a law to himself, and that law must be in his heart—the law of right and justice, of love to others, as we hope to be loved ourselves.—E. L. Vincent.

This Wonderful Machine Has Actually Revolutionized Butter Making on the Farm

Saves Half the Work—Makes More and Better Butter

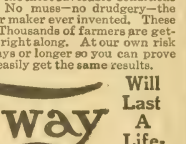
You can take the same amount of cream you are now churning and, with a Fayway Butter Separator, get more and better butter than is possible with any churn under the most favorable conditions—and in less than half the time. No muss—no drudgery—the Fayway is the easiest running butter maker ever invented. These are facts—not extravagant claims. Thousands of farmers are getting these results with the Fayway right along. At our own risk we will loan you a Fayway for 30 days or longer so you can prove for yourself that you can easily get the same results.

Easy to Keep Clean and Sweet **The Fayway** TRADE MARK Will Last A Life-Time

BUTTER SEPARATOR

Capacity For All Farm Purposes

All churns beat or whip the butter fat out of cream. This breaks the fat globules and makes greasy, salvy butter. The Fayway has a center hollow shaft through which a strong current of air is forced, blowing all the butter fat upward where it quickly forms into golden, pea-shaped granules, ready to be worked. Absolutely free from impurities, the butter is washed and worked in half the time "churned butter" requires. Firm and waxy in texture, of superior grain and beautiful golden color—you'll say it's the finest you ever saw or tasted!



Read What John Andrews, Editor of Kimball's Dairy Farmer, Has To Say About The Fayway—Also What A Few Owners Say:

What John Andrews says:
That Fayway is a new kind of a butter separator that came out with what looked like extravagant claims. We did not care to advertise it to our readers until these claims were established to our satisfaction. We sent a man to Cincinnati and unbeknown to the manufacturers, he spent a half day in a dairy where the Fayway Butter Separator was being used. Our man saw it do all and more than was claimed for it, and came back enthusiastic.

Makes Best Butter in Town
When I first tried to make butter, I worked for hours, and then had inferior butter; I tried many churns, and heeded all advice, but after a year I was still making poor butter and wasting a lot of cream. I saw the Fayway advertised, and I wrote for one. I now have the reputation of making the best dairy butter in town, and the credit is all due to the Fayway.
The Fayway Co. has absolutely lived up to their agreement and by following their advice, I have recovered at least 20 per cent more butter from my cream and market it at top price. MRS. J. W. McCLOY, Eden, N. Y.

Butter in Exactly 5 Minutes
After heating our cream we proceeded to churn; it took me exactly five minutes to make the butter. My wife is delighted with the Fayway.
C. U. STRONG, Mora, N.-Mex.

Demand Larger than I Can Supply
The Fayway Butter Separator certainly does make fine butter. Already my demand for Fayway Butter is larger than I can supply. MRS. F. KOHLER, Hamilton, Ohio.

This Fayway Butter Brings 7½¢ More Per Pound
We have raised the price on our butter from 30 to 37 1-2c per lb., or better still our customers have raised it for us since we are using your machine. J. H. BOELTE, News Ferry, Va.

30 Days Free Trial

If you were convinced of the truth of everything we've told you about the Fayway, you'd buy one in a minute. But it sounds too good to be true, so perhaps you are skeptical. Why not, then, test our claims by trying a Fayway for 30 days free. You'll be under no obligations to keep or pay for the machine if you are not convinced or if for any reason you don't wish to keep it.

$1000 Guarantee We have deposited $1000 with a Cincinnati Bank as a guarantee that we will faithfully perform our every promise. We furnish every purchaser of a Fayway with Cartons, Parchment Wrapping Paper and a 1-lb. Butter Mold—all free. With this outfit you'll be a complete creamery right on your farm—a creamery that the women folks can tend to because the little work involved is so easy and pleasant. Put up in these sanitary cartons, your Fayway butter can hold its own with the best creamery butter in the land, and command the same fancy prices. Many Fayway owners tell us they actually get

5c to 10c More Per Pound
than they were ever able to get for their best churned butter. The extra profits from the same amount of cream you are now churning will quickly pay for a Fayway.

Buttermaking Course Free
Shows you how to build up a big, profitable butter business, and tells you everything you should know about buttermaking. You need this course.

Mail Coupon NOW!
For free facts and proof! Send now—you're losing money every day you delay. Send no money—everything free.

THE FAYWAY CO.,
115 John Street,
Cincinnati, Ohio.

FREE CARTONS
Parchment Paper and Butter Mold
CARTON made of highest quality heavy manila board paraffined both sides.
PARCHMENT WRAPPING PAPER. Your name and address printed on each sheet—a big advertisement for your butter.
1 lb. BUTTER MOLD. Made of hardwood maple.
All FREE to every purchaser of a Fayway.

The Fayway Co.,
115 John St., Cincinnati, O.
Send facts about 30 Days Free Trial Offer, and Free Course in Buttermaking; also proof and legal guarantee.

Name.....
Town.....
R. F. D.....
State.....

SERVICE RECORD VALUABLE

Many do not keep a service record, and only know that their cows are due to calve "about such a time." Tenants who may move onto places do not know when the cows are due to calve. Some cows thus go dry a longer period than is profitable, and some, whose period of milking is long, do not get any needed rest.

A very simple accurate record may be kept which will give information to any one. Each cow should have an individual stall and the stalls numbered, so that her number can be recognized when a pet name form would not be. A card should be put up in the barn, with a string and pencil attached, and the date of service put down immediately.

This card should have twelve columns across the top with numbers one to twelve running from left to right. The abbreviations for the months can also be placed with corresponding numbers. Cross lines will make spaces so that the numbers of the cows can be started on left side of card, running down. A glance at the record will show when every cow was bred.

By using a gestation table the time of calving can also be indicated. Such a record eliminates all guesswork. In connection with the use of the service record comes the question when is the best time for cows to calve? In a section where milk is produced, and is the main farm work, the price of milk is to be considered. The rising price of milk is from July to January and the falling price vice versa.

AN ICELESS REFRIGERATOR

I will give a method whereby anyone can keep milk, cream, etc., cool and fresh during hot weather at no expense. It is simply a galvanized tub in a well. Set the pump to the side of the well, the pipe close to the wall, leaving the center of the well clear for the tub to pass up and down.

Use four pieces of a good well chain on the tub for a bail, each piece being about two feet long, one end of each piece being attached to the heavy wire rim of the tub equal distances apart, and the other ends brought together and fastened above the center of the tub to make it hang true. To attach the bail punch four holes through the tub just below the wire rim, and through these holes the opened links of the chain are inserted and then closed. The tub should be operated by a chain and wheel, the chain, of course, being attached to the upper end of the bail, and the wheel so adjusted above that the tub will hang in the center of the well.

Something must be used on the other end of the chain to balance the weight of the tub when it is loaded with milk, fruits, etc. An old crowbar will answer the purpose, or window weights, using two, three or four as needed, putting one above the other, something long and small around, heavy but taking little space when passing up and down the well. The weight must be close to the wall, like the pump pipe, so as not to interfere with the play of the tub. That can be managed by passing the chain through an auger hole in the platform of the well, and far out to one side, say close to the pump pipe.

The platform over the well should have double trap doors to close from each side against the chain and be fastened with a snap that a child could not work, or better a low box curb with such doors on top of it. The tub should not leak, and should hold anything that might be spilled in it to prevent the water in the well from being contaminated. The larger the well is in diameter the bigger the tub may be. With this arrangement food products can be kept nice and cool in the hottest weather, and it is useful in winter to keep things from freezing. There is no patent on it.—U.

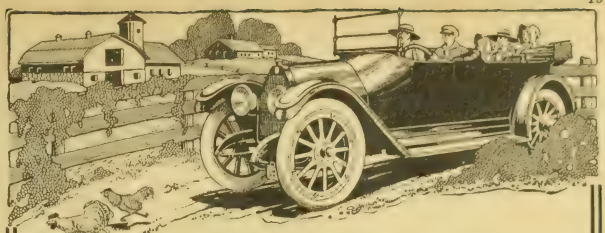
MAKING CREAM CHEESE AT HOME

(Continued from Page 14)

with a well-greased cloth, long enough to fold over the top. The curd is then poured in the cloth, folded over, and the other board put on. It is then set where it can drain. A fifteen pound weight is placed on top, left for twenty-four hours, and then removed from the press. We take off the cloth and grease the cheese, lay it on a plate in a screened box, and grease and turn it every day until it is ready to use. The rennet tablets can be obtained from druggists or dealers in dairy supplies.

The profits of the farm come as much from a better acquaintance with nature as from the production of good stock.

According to estimates each woodpecker in the United States is worth $20 in cash, because of the assistance it gives in controlling tree insects.



Simplicity Power—Economy

THE first time you see a Lewis Six you will be impressed with its graceful "bigness". When you ride in it, you will revel in its roominess and its deep tufted upholstery. When you drive it, you will marvel at its silent power. And ever after you will know the never-ending satisfaction that comes only to the man who drives a

LEWIS "VI"

Monarch of the Sixes

the automobile with **1200 fewer parts.** 1200 fewer parts means just that many fewer chances for "trouble", the elimination of lost motion and low up-keep—a car you can understand.

Not only does the Lewis Six **in appearance** bear the unmistakable stamp of "class"—if you will read the following specifications and then compare them with those of America's finest automobiles, you will agree that the Lewis is a $3000 automobile in everything but price. The price is $1600.

SPECIFICATIONS

Wheel base 135 inches—short turning radius.

Speed without shift—2 to 60 miles per hour.

Long stroke six cylinder monobloc motor (3¾x6) assuring continuous perfect alignment of crank shaft.

Weight, 3250 pounds carried low. This with even distribution of weight, assures great tire economy.

Silk mohair top built streamline to harmonize with body. Nickel trimmings prepared against rust and tarnishing. Deep, luxurious upholstering—hand buffed leather.

Big 22-inch doors.

Spark and throttle on top of steering wheel. Foot accelerator also furnished.

Full floating rear axle—road clearance 11 inches.

Demountable rims (one extra).

Oversize tires.

Gasoline tank in rear—absolutely accessible, avoiding spilling gasoline in front of car.

Vacuum gasoline feed with auxiliary supply which can be used only by turning valve.

Electric starter. Electric lights. Electric horn concealed under hood. Left hand drive—rain vision windshield.

Underslung rear spring giving perfect riding qualities, without necessitating shock absorbers.

True streamline body (French) 14 to 16 miles on one gallon of gasoline.

If you ever expect to buy an automobile, you need the Lewis Catalog. We will send it to you upon request and tell you where you can see and ride in a Lewis Six

L. P. C. MOTOR COMPANY, 219 Petard Street, RACINE, WIS.

WE WANT MEN AND WOMEN AGENTS

TO START AT $30 A WEEK

Experience unnecessary—we'll teach you the business—and how to make more a week than most men make a month—assign you exclusive territory and give you a big start. **Manler made $68 clear profit first ten hours. Fitter sold 34 in 3 days. Brandt sold 36 first week. Brewer sold 26 in one day.**

Anyone Should Make $1500 a Year

This new improved "Easy" self-heating flat-iron is right—nothing like it invented—nothing so simple—price low—sells quick—profit big—possibilities unlimited—**guaranteed.** Every woman buys—can't help it—saves her steps, time, trouble and fuel—pays for itself in a little while.

This marvelous new invention—this wonderful flat-iron has a seamless tank—joints brazed—**burns without odor**—flat bottom burner, throws heat downward—**no generating tube to clog**—simple—easily cleaned. It's a business that makes you independent—gives you a local prestige and **plenty of ready money.** Write Quick for **FREE Sample Offer.**

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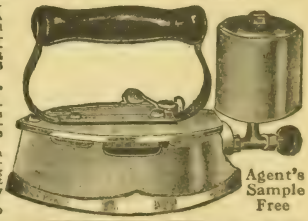

Agent's Sample Free

PREMIUM BUDGET

A fine paper covered 64-page book full of songs, stories, puzzles, magic tricks, money making secrets, jokes, etc. All sent postpaid for 10 cents. THE MASON SUPPLY HOUSE, Springfield, Ohio

Canada is Calling You to her Rich Wheat Lands

She extends to Americans a hearty invitation to settle on her FREE Homestead lands of 160 acres each or secure some of the low priced lands in Manitoba, Saskatchewan and Alberta.

This year wheat is higher but Canadian land just as cheap, so the opportunity is more attractive than ever. Canada wants you to help to feed the world by tilling some of her soil—land similar to that which during many years has averaged 20 to 45 bushels of wheat to the acre. Think what you can make with wheat around $1 a bushel and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed farming is fully as profitable an industry as grain growing.

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

M. V. McINNES
176 Jefferson Ave., Detroit, Mich.

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Canadian Government Agent.

Wait! Don't Buy Any Buggy Till You Get My Bargain Book

Don't waste your money paying double profit on high-priced buggies. I save you $25 to $50 and send you my luxurious buggy on 30-day road test.

I have saved thousands of dollars for farmers and will save you money. Get my new proposition now. It is a big winner. I make it easy for you to own a new buggy this year. Bohon's "Blue Grass" Buggies have earned a big reputation for quality, style, and service. You'll be proud to ride in one and will save money into the bargain. "Blue Grass" Buggies sold on

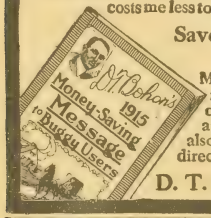
Unlimited Guarantee

Backed by a $30,000 Bond

I sell you direct from my factory. That's how I save you $25 to $50. There's no middle-man to tack on expenses and profits. No agents or traveling salesmen. Nothing but my Big Bargain Book—and Uncle Sam carries it anywhere in the country for a few cents postage.

I build perfect buggies because I'm a buggy specialist. Have done nothing else for years. "Blue Grass" Buggies are made of straight grain second growth hickory. They have full wrought gears, steel braces at all points of strain and are in every way as high grade as a buggy can possibly be built.

I sell them for less because it costs me less to sell them.



Save $25 to $50—Send for This Free Buggy Bargain Book Free

My big book is crammed with buggy bargains. Surreys, runabouts, phaetons, etc. No matter what kind of buggy you want, you'll find one here to suit you, and at a price that goes easy on your pocketbook. I also list a complete line of single and double harness at direct-to-you prices. Write today.

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PEOPLE'S SUPPLY COMPANY, Dept. F. N. St. Louis, Mo.

Poultry

EGG PRESERVATION

Many different methods of preserving eggs have been tried, some of which are packing eggs in dry table salt, bran, oats or sawdust; preserving in dry wood ashes, powdered sulphur, powdered gypsum, salt brine, slaked lime and salt brine, salicyclic acid, potassium permanganate, lime water, solutions of water-glass, gum arabic and formalin, or gum arabic and salicylic acid; dipping in sulfuric acid and sealing up in glass cans, covering with vaseline, paraffin, butter or lard. Of all these methods, the lime water and salt brine and the water-glass solution have given the best results, and of these two the latter is the better. Eggs that have been preserved in the lime water and salt brine have a peculiar chalky taste.

LIME WATER AND SALT BRINE PRESERVATIVE

Slake four pounds of good quick lime in a small amount of water, then mix with four gallons of pure water and add two pounds of salt. Stir this thoroughly several times, then allow it to settle and pour off the clear liquid in which the eggs are to be preserved. This formula will make enough liquid for 30 dozen eggs.

WATER-GLASS SOLUTION

The commercial water-glass solution sodium silicate may be obtained from any drug store at a cost of about 20 cents per quart. Mix 1 1-2 quarts of this solution with 18 quarts of pure water; water that has been boiled is preferable. Stir these until they are thoroughly mixed. A stone jar is the most suitable receptacle and it should be scalded thoroughly two or three times to make sure that it is perfectly clean. Two five gallon jars are sufficient for thirty dozen eggs, using the amount of solution prescribed above. Place the eggs in the water-glass, see that the top eggs are covered by at least two inches of the liquid, and cover the jars to prevent evaporation. Place them in a cellar or room where they will be undisturbed during the year.

SUGGESTIONS

Keep the whole flock in as near a perfect state of health as possible, as eggs are often infected from a diseased condition of the hen and will not then keep as well.

Gather the eggs each day.

Keep the gathered eggs in a dry cool room or cellar where the sun's rays do not fall directly upon them.

Preserve only absolutely fresh eggs. Stale eggs will not keep in any preservative. Place eggs in the preservative within twenty-four hours after the time they are laid. If in doubt as to their freshness, candle them, or see if they sink when placed in a dish of pure water. If an egg sinks it is reasonably fresh.

Do not preserve dirty eggs nor eggs that have been washed. The washed egg will not keep because the shell has

been moistened, and the dirty eggs will become tainted in flavor.

Do not try to keep eggs longer than one year.

Do not use the same liquid more than once. A new lot is cheaper than a case of spoiled eggs.

Spring eggs will keep better than summer or fall eggs. April eggs best.

Infertile eggs keep better than fertile eggs.

Rinse the eggs in water after removing from the preservative. If in good condition when removed from water-glass solution they will usually remain good for at least two weeks.

Water-glass eggs are practically as good as fresh eggs for all cooking purposes. If it is desired to boil them, prick a small hole through the large end of the shell before placing them in the water. The pores of the shell have been sealed by the water-glass solution and without this pin hole the expanding air within the shell would burst it.—Leslie E. Card, Conn. Coll.

THE WET MASH FOR THE FARM FLOCK

During the past few years a great deal of space has been utilized to discuss the relative merits of the wet and dry system of feeding mashes to laying hens. Undoubtedly, the dry system has many advantages which can only be understood from its use, but we have fed wet mashes to our fowls for years and shall continue the practice so long as our flock does not exceed 100 hens.

The use of a wet mash, prepared each day just previous to feeding, allows the utilization of table scraps, kitchen wastes, sour milk, waste fruit and vegetables and other tidbits that are keenly relished by the fowls and help to keep down the cost of grain and other feeding materials.

In making up a grain mixture for the wet mash I aim to mix the various materials so that the ration will approximate one suited for a dairy cow. To this mixture table scraps, small potatoes and other vegetables are added. When feeding the mixture in the troughs I aim to feed about as much as the fowls will clean up within a half hour. If considerable meat or rich concentrated feed is available the ration is lightened by the addition of cut clover or bran, and in this way the ration may be used safely in larger quantities than if the rich feeds are not properly supplemented.

The cost of feeding during the winter is greatly reduced by the purchase of young calves from dairymen who value them only for their hides. The meat and bones, together with waste fruits, mangels and table scraps are boiled in a cooker in the wood-house and make a rich and palatable mash for the fowls.

The mash is fed early in the morning. At ten o'clock wheat and buckwheat is fed in the scratching litter, and about one o'clock the same feed is repeated. The night feed is corn, and care is taken not to feed more than the fowls will clean up before going to roost.

Our poultry houses are near the horse-barn and we plan to care for the fowls at the same time we are caring for the horses. The horse chores sort of remind us of the poultry chores and by planning the hours of feeding and caring for the poultry to conform with our program at the horse barn the work is less troublesome than when it is conducted as an independent set of chores. Unless the work among the fowls is sandwiched in with the other chores the men are likely to neglect it.

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This $100 Typewriter direct from our Factory for Only $35

And on easy Monthly Payments

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Think of it! For only $2 we will ship you this full size brand new "visible" *Chicago* typewriter, and let you try it in your own home, store or office, 10 days at our risk. Use it as if it were your own. Write all the letters you want to on it. Keep it the full 10 days before you decide, then if you are not satisfied, just return the outfit at our expense and we will refund every penny you paid us. You take no risk whatever.

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$35 This is our astonishingly low direct-from-factory price on a brand new, full size, 10 year guaranteed typewriter, and you have the machine to use as soon as you make the first small payment of only $2. After that you pay at the rate of only $3 a month until the machine is paid for. You have no interest or extras to pay. The *Chicago* is guaranteed to do your work as well as any hundred dollar machine. You save $65 by buying direct from our factory instead of through agents or dealers.

Note the exclusive features—patented eraser plate, line space regulator, rapid envelope addressing plate, and steel interchangeable type wheel printing more characters from fewer keys than other typewriters made.

FREE Leatherette Carrying Case

To those who write promptly using the coupon at the right, we will make a special offer whereby this strong, handsome leatherette carrying case with fine brass lock and trimmings, can be secured absolutely FREE.

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Gentlemen—Without any obligation on my part, please send me full particulars of your special easy payment offer on The Chicago Typewriter and tell me how I can get the Leatherette carrying case Free.

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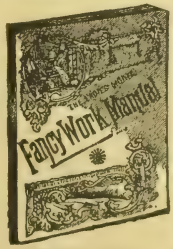
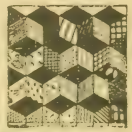
FREE BIG FANCY WORK MANUAL and 36 PRIZE WINNING QUILT BLOCKS FREE



The Fancy-Work Book contains designs and directions for making nearly fifty different patterns of knitted laces. This book, embodies all the latest ideas in needlework, crochet, knitting and embroidery, and instructions for making many useful articles of wearing apparel and numerous articles for home decoration, among which are tidies, chair-scarfs, doilies, purses, table mats, shopping bags, lamp shades, shawls, afghans, toilet sets, counterpanes, sofa cushions, chair-covers, pincushions, dressing slippers, babies' socks, etc. Complete instructions accompany each design, together with an explanation of the terms used in knitting and crocheting, etc. It also contains complete instructions in the art of embroidery. The whole is illustrated by 95 handsome engravings. With this book any one may become a real expert at this work.



The Quilt Block Patterns have been selected from 800 designs that were submitted in a prize winning contest. We have reproduced 36 of the very best designs in pamphlet form.

In order to advertise our monthly magazine and to introduce it into new homes we will send the Fancy-Work Manual and the 36 Quilt Block Patterns free and postpaid to any person sending us 10c to pay for a 6 months' trial subscription to The Family Magazine. Only one order to a family on these terms. Send today.

Address THE FAMILY, Department 14, SPRINGFIELD, OHIO

EMBROIDERY BOOK FREE

Beautifully illustrating 300 designs for Indian, negro and descriptions how each design is worked. Everything from shirtwaists, photo-frames, ruffs, pillow tops, doilies, center pieces, hand bags, scarfs, hats, to baby clothes and table linens. Also **eight lessons on embroidery.** (1) eyelet work, (2) eyelet embroidery, (3) outlines, (4) relief embroidery and German knot, (5) punch work and small lead, (6) button hole and French knots, (7) Rambler Rose and Lazy Daisy, (8) feather stitch and briar stitch. Each lesson illus., also fashion book showing 100 illus. of **latest styles** for ladies, misses and children with full descriptions. **Both books free** and postpaid to any woman sending us 12 cts. for trial 6 months subscription to The Home Magazine—best fancy work and fashion magazine published. **Home Magazine,** 141 W. Ohio St., Dept. **68, Chicago.**

Lyon & Healy Band Instruments

Fifty Years the Standard of America

Lyon & Healy American Professional Cornet plays like Sixty — costs only Thirty Dollars. Write for complete catalog with terms, and be sure to tell us what instrument you are interested in.

LYON & HEALY
35-44 Adams St., Chicago

Bracelet and Ring FREE

Very handsome adjustable bracelet gold plated, set with ruby stone. 3 stone ring free with bracelet. Given for selling 20 Beautiful colored Art Pictures at 10c each.

We trust you. We pay postage and take back unsold goods. 40 extra articles given for prompt reply. *Send name today.*
People's Supply Co. Dept. F N St. Louis, Mo.

Make your own Fertilizer at small cost with
Wilson's Phosphate Mills
From 1 to 40 H. P. Send for catalogue.
WILSON BROS. Sole Mfrs., Easton, Pa.

I MADE $50,000 in five years with a small Mail Order Business; began with $5.00. Send for free booklet. Tells how. HEACOCK, 203 CHARLES STREET, LOCKPORT, NEW YORK.

EASY GLIDE GARDEN CULTIVATOR. Only $1.50. A child can run it. Circular free. **N. McASLAN, BRUCE, WISC.**

How To Make An Automobile of Your Motorcycle

Use any motorcycle, single or twin, any make. A fine touring car in two minutes with a Rogers Sidecar. Great speed. One-tenth the cost per mile. Almost no expense for upkeep with a Rogers New Model Sidecar. The beautiful new stream line body. One solid sheet of steel. Lighter, stronger, roomier. Put it on and take it off again in 4 minutes. Makes steering easy. Just the thing for bad roads. Easy on your motorcycle all the time. Send for book describing the big new ideas and our special offer to motorcyclists. Send coupon.

Rogers Sidecar

Make motorcycling a luxury as well as a pleasure. You are missing nine-tenths of the joy and benefit until you get a Rogers Sidecar. The 1915 model Rogers Sidecar is a marvel of elegance and economy. Learn what a new Rogers Sidecar means for you. Send for illustrated book and special offer today.

Free Book This book will open your eyes to the possibilities of motorcycling. Every motorcyclist should get this free book. Send coupon and post yourself. Send the coupon or a postcard today.

Send Coupon!

Send the coupon or copy it on a post card or a piece of paper and mail it today. Send quick and be up to date. All who write promptly will get our special offer. Rush the coupon to us in the first mail.

Free Coupon

Rogers Mfg. Co.
326 W. Madison St.
Dept. 2617
Chicago, Ill.

Rogers Mfg. Co., Dept. 2617
326 W. Madison St., Chicago, Ill.
Gentlemen. Send me free book, full descriptions of the Rogers New Model Sidecar with latest improvements. Also the particulars of special offer to motorcyclists. No obligations.

Name .....

Address .....

Lesson in Farm Advertising

Why Boost the Other Man's Business When You Have a Good One of Your Own

ADVERTISING—the gateway to increased sales—is being used to his personal advantage by the farmer who owns one of the barns illustrated. The other prefers boosting another's merchandise. And thereby hangs a moral.

Enterprising merchants, circuses and corporations, who whole-heartedly believe in the virtue of advertising, which always costs money, send representatives along frequented highways in search of barns and other available buildings. These located, they then approach the farmer with a proposition something like this:

"We will be willing to paint your barn if you in return will permit us to print an advertisement of your nearest town's leading clothier on it."

"No sir, neither the paint nor its putting on will cost you one cent. All we ask is that we can use part of the space for an advertisement."

And the owner says "go ahead," for he thinks, generally, about how nice the barn will look with fresh paint, and

This barn shows enterprise on the part of the farmer—he boosts his own business

of how this new coat will also preserve the wood a little longer. He doesn't stop to think that in return for a cheap, grade paint he is selling semi-permanent and valuable advertising space for a mere song. He prefers helping boom another man's business to pushing his own.

If his barns are worth the cost of a coat of paint to another man this space is worth identically as much, or more, to him in advertising his own products.

The opposite method illustrates how a coat of paint, combined with elbow grease, has been used by the proprietor of Green Hill Stock Farm in being of active assistance in impressing his personality, his place of business, and the stock he has to sell upon all passers-by. Instead of being a silent salesman for another man he is being a merchant-advertiser upon his own ground. He uses his barn and silos as his show windows and permanent guide posts. No one going by is permitted to forget that Green Hill Stock Farm stands for a certain definite industry. It has outstanding personality.

The simple statement "Jersey Cattle — Cotswold Sheep — Chester White Hogs," and the name of the farm upon the silo topped by the stars and stripes, is the essence of good advertising, for every word means something, and there are no useless ones. It states the case in a businesslike way. It has more than paid for the paint and work of putting it on. And, being a permanent form of advertisement, it increases in value as does a trade-mark—one of any firm's most valuable assets.

Sum up your best selling points and then, paint brush in hand, advertise to the passing world that here is where these products are to be had. Get busy using that valuable space to your advantage.

THEIR "SELLING" FRIEND

A farmer may complain about the dust automobiles stir up as they sweep along the road before his home, or he may regard them as a merchant upon a city street looks upon passersby—as possible customers. The last is the best plan.

The second step is to determine the business you are in—to supply auto trade—and the third, how to let autoists know about your goods.

Some farmers and farmers' wives are patrons of their nearest city's papers' advertising columns in working up a parcel-post trade. You needn't do this, for your customers whirl by your very gate. All you need to do is to stop them. How? Why, make a sign such as the illustration shows.

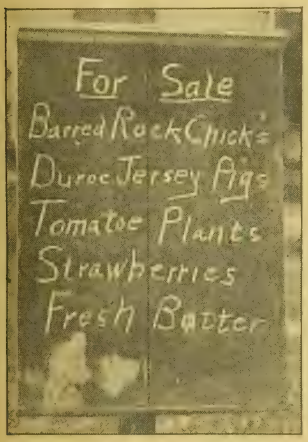
Mrs. Thomas, the girls, and twelve-year-old Jim were very proud of their garden, butter and poultry. Mr. Thomas growled about the dust passing autos made. They all thought they, too, would like a car but—now there is an auto fund which is showing an amiable spirit of growth.

This barn shows enterprise on the part of the merchant—and the failure of the farmer to recognize its value

The Thomas family were too far out from the city to comfortably attend market; but then why should they when living upon a broad highway frequented by automobiles. Autos filled with people who liked fresh produce, eggs, poultry and good butter, and who were well able to pay the price suited to first-class goods.

The boards, each 2x3½ feet in size and an eight-foot 2x4 inch post were used. Also part of a can of dull black paint. The boards were well planed, then screwed together by means of a narrow half-inch strip which gave the effect of a frame upon the back of the signboard. The post was then fastened along the center. The whole affair was painted black, two coats being given. It was then placed a bit to the side of the entrance gate so that customers were really invited to enter. Chalk was used to write the offerings.

A point of advantage for both customer and merchant would be in having a distinctive arrangement whereby the



The sign board which lets the traveling public know what you have to sell—it brings the answer

farmer and his wife could be summoned instead of by the auto horn's "honk-honk," or the folks leaving the machine and coming to the house, why not have a vine-draped trellis—morning-glories for instance, grow quickly—with a bell and ringer attached, accompany the sign, with an invitation to "Ring the bell, please."

The Thomas yard, which was always well kept, and the glimpses of garden, hearty Plymouth Rocks, and Holsteins, were the best kind of "selling talks," now that the public knew these products were for sale to whoever cared to stop and buy. Many did stop, and new ones came, and they also hear "We would like to buy some of your delicious butter and fresh produce for some of our friends."

Yes, it is no wonder new comforts and pleasures have come, and that an auto fund is growing. It is also easily understood just why their gardening space is to be greatly enlarged. Specialism always pays—especially when it is accompanied by advertising.

Factory Sale

Of High Grade Pianos and Player Pianos

For 30 Days Only

One of Our Many Styles

We offer for 30 days only, a saving of ⅓ to ½ on the price of the PURCELL PIANOS and PLAYER PIANOS. Will ship you on FREE TRIAL—NO MONEY DOWN—2 to 3 years' time to pay, or a LIBERAL DISCOUNT FOR CASH.

This Is One of the Greatest Money-Saving Sales of Fine Pianos Ever Offered to the Piano-Buying Public

PURCELL PIANOS need no introduction to musicians or musical people, as they are to be found in the leading schools and colleges all over the United States, and are in thousands of homes of well known musicians. The Purcell instruments have been on the market for a number of years, and have been largely purchased by professional musicians and by schools, which are by far the most exacting of all buyers of pianos.

It is the same in selling pianos as other articles; if the producer deals direct with the consumer, a great saving is obvious. Suppose the farmer could in some way ship his products direct to the consumer in the large cities, instead of first selling to a local buyer, who in turn sells them to the commission agent or wholesale firm in the cities, who sell to the retailer, and finally the retailer to the consumer. Isn't it a fact that the user must pay at least one-third more for this product than he would if he could purchase direct from the producer, for you know, the wholesaler, and retailer, too, each must pay his expense of handling and have profit besides? Our plan in selling pianos direct eliminates all go-between expense.

THIS SPECIAL 30-DAY SALE

will positively save buyers at least $150 on the purchase of one of the sweetest toned pianos on the market. We will ship you any one of our many styles, which you may select, without any obligation on your part. You can test it in your own home, and, if you are not satisfied that it is the finest piano you ever saw, you can ship it back to us at our expense.

Don't Consider Any PIANO OFFER Until You Receive Our 30-DAY FACTORY SALE PRICES

We will mail you our FREE BOOK, showing all our styles in natural wood colors. It is a beautiful book and will be mailed to you postpaid FREE. Also Free Trial Order blanks with all particulars and our 30-DAY FACTORY SALE PRICES.

Read These Letters:

I. S. Purcell, 339 S. Wabash Ave., Chicago
Dear Sir: We purchased Purcell Pianos for our School after careful examination of a number of different makes. The tone quality of the Purcell Pianos is especially good and the action is very responsive. The design and finish is all that could be desired. We use the Purcell Pianos exclusively and heartily recommend them to anyone desiring a first class piano.
Wishing you a continued success,
MENDELSSOHN CONSERVATORY OF MUSIC
Chicago, Ill.

I. S. Purcell, Chicago, Illinois
Dear Sir: The piano arrived last Tuesday, and am pleased to state that it surpasses my anticipation. It is rich in tone and satisfactory in every way. I requested several teachers and professionals to give me their opinion and they are unanimous in declaring it to be an excellent instrument. Thanking you most sincerely for your kindness, Respectfully,
SISTERS DE NOTRE DAME
1124 Hall Street, Baltimore, Md.

If you are interested in this sale send in your request at once for prices and our book as only a limited number of pianos and player pianos will be sold at this special sale.

I. S. PURCELL, Pres. PURCELL PIANO CO.
Dept. A, 339 Wabash Avenue, Chicago, Ill.
Dear Sir: You may send me your FREE Piano Book and literature about the famous Purcell Pianos, also your prices and terms as advertised. It is understood I am to receive this book postpaid.
Name.....
Address.....
County..... State.....

Thousands of Similar Letters Are on File in Our Offices from All Parts of the Country

WIN A $275.00 MOTORCYCLE FREE

Can You Solve This Puzzle? Try It and See.

Arrange the letters, shown in the circle, so as to form the name of a well known farm paper. Send in your answer, with your name and address, at once. You will then be entitled to be considered in the awarding of the $275.00 Motorcycle and other Grand Prizes which we will give away FREE. If you are sure you are correct we will also send you a Certificate Good for 1,000 Free Votes toward the Motorcycle and other Grand Prizes in our great Motorcycle Contest, ending Aug. 31, 1915. In case of tie for any prize, each tying contestant will get a prize same as the one tied for. Whether you win the Motorcycle or not, if you take part in this contest you will receive a Valuable Prize and Cash Reward for Everything You Do. The first thing to do is to send in your name and address and puzzle solution. Address

FARM LIFE, DEPT. G-22 SPENCER, INDIANA

OWN A BUSINESS

We Will Help You

"I made $88.16 first three days, writes Mr. Reed, of Ohio. Mrs. Woodward earns $170 a month. Mr. M. L. Smith turned out $301 in two weeks. Rev. Crawford made $7.00 first day. See what they have done, judge what you can do.

Let Us Start You

in Gold, Silver, Nickel and metal plating. Prof. Gray's new electro machine plates on watches, jewelry, tableware, and metal goods. Prof. Gray's New Royal Immersion Process, latest method. Goods come out instantly with fine brilliant, beautiful thick plate, guaranteed 3 to 10 yrs. No polishing or grinding. Every family, hotel and restaurant want goods plated.

PLATERS HAVE ALL THEY CAN DO. People bring it. You can hire boys to do the plating as we do. Men and women rather work for small per cent. Work is fine—no way to do it better. No experience required, we teach you. Recipes, Formulas, Trade Secrets Free. Outfits ready for work when received. Materials cost about 10 cents to do $1.00 worth of plating.

Our new plan, testimonials, circulars and **Sample Free.** Don't wait. Send us your address anyway. **Gray & Co. Plating Works,** 783 Gray Bldg, Cincinnati, Ohio

FINE CATALOG 6c. All varieties fine Poultry, Turkeys, Geese, Ducks, Guineas, Bantams, Hares, Dogs, Stock, Eggs. Circular free. Pioneer Farm, Telford, Pa.

LADIES SILKS Buy your silks and satins direct from our mill at wholesale prices. Big saving. All the latest popular shades and weaves. Finest quality and all goods guaranteed, or money back. Send for free samples and prices. Address **PALATINE SILK COMPANY, 88 South Water St., NEWBURGH, N.Y.**

The HOUSEWIFE

IN THE KITCHEN

(Prepared for Farm News by Nellie E. Maxwell, Department of Farmers' Institutes, of the University of Wisconsin.)

The arrangement of the kitchen equipment so as to eliminate unnecessary steps in the work of preparing meals is a very important matter to consider. The correct grouping of sink, table, stove and cupboards to save energy is worthy of serious thought.

In the modern home the kitchen is small, and is considered and treated as a workshop. There are many old homes with the equipment placed at the four sides of the walls, making miles of extra walking in the preparation of meals which could be very easily regrouped to make the work lighter. In Bulletin 607, published by the United States Department of Agriculture, there are several illustrations of old kitchens re-arranged.

A convenient arrangement to have over a table and within easy reach is a shelf with the utensils that are the most often used hanging underneath, and on the shelves condiments, salt and such other materials as are used in cooking.

Hang the spoons, measuring cups and small things within easy reach and always place them there.

When washing dishes, if the sink and table are within reaching distance of the cupboard the dishes may be placed on the shelves when wiped, thus saving one handling.

A large tray to carry dishes to and from the dining table is a great step saver but better yet is the wheel tray. The first cost of this is rather large but the housewife might afford to indulge in one for its convenience can hardly be over-estimated.

A zinc covered table in the kitchen is another most desirable part of a well equipped kitchen. A zinc cover can be put on an ordinary pipe topped table at a cost of less than two dollars, and the saving of work in scrubbing is worth considering.

The sink, table and stove should be such a height as to permit the person using them to work with comfort without stooping.

If you have a pine floor, do not wear out your life scrubbing it. Cover it with a good linoleum, which will cost about a dollar and thirty-five cents a square yard. If varnished once or twice a year it will last five or ten years with good care. If rugs are kept where standing, it will save the feet as well as the linoleum.

If the floor is of hard wood, have it finished so that it may be easily cleaned.

Do away, as fast as possible, with the heavy iron kettles and buy aluminum. There is no short cut in house work equal to the handy devices like a meat grinder, a bread and cake mixer, a good egg beater and cream whip, standard measuring cups and spoons, all insuring against waste of time and materials.

Corners are such hard places to keep clean that curved brass corners may be tacked in them. These tips may be bought at any hardware store.

Small dishes on gas burners are so apt to tip. A piece of wire netting placed on the burner is a great convenience.

Save time in washing spoons by keeping old teaspoons in the soda and baking powder cans.

When cooking eggs in the shell use an old flour sifter. They will cook in it and can be taken out quickly and all together.

Shears in the kitchen may be great savers of time. Use them to trim lettuce, cut raisins and figs, dress chicken, prepare grape fruit and many other uses may be discovered daily by the thinking housewife.

FREE

Heavily Plated With Pure Silver

All you need do is to send us **this advertisement, your dealer's name** and three trade-marks—the large, red words **"MERRY WAR"** cut from can labels of

MERRY WAR LYE.

Then we will send you this

Genuine Guaranteed Wm. ROGERS & SON Oak Design SUGAR SHELL FREE

Only One To Each Family On This Special Offer

You'll find uses every day for

Merry War Lye

Disinfecting — Cleaning — Softening Water—Feeding Hogs and Poultry—Soap-making and many others. **Full directions on label. With your Sugar Shell we will tell you how you can get a Complete Set of beautiful Oak Pattern Tableware to match—and absolutely free—enough to furnish your table elegantly for a lifetime.**

Your dealer has **Merry War Lye** or can easily get it for you.

Be sure to give us your own and your dealer's name and address.

E. MYERS LYE CO.
Dept. 114
St. Louis, Mo.

PROTECT THE POULTRY.

Every poultry raiser should, if possible, raise several times as many fowls as he knows he will require for the following year—this gives him a better chance for selection in the fall. Greatest care should be taken in the prevention of disease. The following directions are safe and reliable for keeping fowls sturdy, to better enable them to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes and Worms. Thoroughly mix one teaspoonful Merry War Lye in two gallons of drinking water. Or it may be mixed with dry feed or mash by thoroughly dissolving one teaspoonful of Merry War Lye in one pint of water, which should then be stirred into two gallons of dry feed or mash. Feed regularly. Poultry raisers who have tried this simple and inexpensive treatment are enthusiastic in its praise.

WHITE FLOATING SOAP.

You will never know how great is the satisfaction of using a mild, home made, white soap that floats, until you have tried it. Easy to make, too: just put two quarts melted grease into a kettle; then stir one can of Merry War Lye which has previously been dissolved in a quart of hot water and allowed to cool until luke warm, into the grease; add immediately one cup of ammonia and two tablespoonfuls of borax dissolved in half cup of warm water. Stir five minutes; beat the warm soap until it is too stiff to be handled, and put away to cool. Do not use until four weeks old. (All soap improves with age). This formula which is so simple that anyone can follow it makes, at small cost, a batch of excellent floating soap which will give the greatest satisfaction in use.

$50.00 WEEKLY CASH — RUSH THE COUPON

This is B. F. Brown Oklahoma made $180.00 in 32 days

H. Erdahl of Minn. made $180.00 in 60 days

G. C. Claassen made $200.00 a month

Mrs. A. M. Williams used this iron for 10 years

The Season's Sensation

Reduced Prices—New Terms

THE BIGGEST, fastest selling, greatest money maker of them all. Our new selling plan is a whirlwind success. You do not need experience to make $50.00/a week with us. We will show you. Our plan does the work. Just send us the coupon in the lower corner of this page, and hurry.

We want good sales managers quick, men or women who want to build up a permanent, profitable business for themselves—who want to better their position and increase their income. No capital or experience needed. The New Improved Monitor Self-Heating Iron is taking the country by storm. Solves the ironing problem. Over 650,000 already sold. We tell you it's great! GREAT! It is its own best adyertiser. The more irons sold the more sales and profits you continue to make. We are positive—absolutely certain—you can make more money in a week with the Monitor than you ever made in a month before—We know it! Our representatives appoint sub-agents and make a profit from their labor, too. We show you how to do just that, give you valuable exclusive sales territory, absolutely free, with the fastest selling specialty on earth—with the help we can and will give you—with our free booklet of selling instructions, written from the experience of our most successful agents—YOU SIMPLY CANNOT HELP BUT SUCCEED. The best selling season is just opening. Every home has ironing to do. Every housewife will be interested. The old-fashioned, stove-heated sad iron has seen better days. Everyone wants a Self-Heating Iron. This is your opportunity. If anyone will convince you that he can establish you in a paying, honest, dignified business where big money is practically sure, you'll take the job, won't you? All right, we'll take you up on your own proposition. We'll appoint you our representative on that very basis. We'll convince you that we've got the best selling specialty in existence. We'll prove to you with our new plan that you're not entering into a dinky, paltry agency proposition. You're putting yourself in line for an amazingly big paying business of your own with profits of from $40.00 per week upward.

HERE'S WHAT THEY SAY!

After an experience of over ten years using your Monitor Self-Heating Iron, I can personally recommend it as the safest, cheapest and best self-heating iron on the market. Since taking the agency recently I have sold over thirty dozen irons and have the first person to find who, after being properly instructed in their use, would not unreservedly recommend them.
Very truly, MRS. A. M. WILLIAMS. Mich.

It sells faster than any household article I know of and the work is honest and easy. My total income for the past sixty days amounted to $180.00, or $240.00 a month.
Yours truly, HENRY ERDAHL. Minn.

$200.00 A MONTH—I have just closed my fifth season with the Monitor and will return to college next week. During vacation I sold and delivered 240 irons. I made $440.00 and expenses, making an average of $9.00 per day, or $200.00 a month and expenses. The Monitor is the road to success.
Yours truly, GEO. C. CLAASSEN, Iowa.

Having used the Monitor in my home, I took my Iron on a vacation trip with me, thinking perhaps I could sell one or two dozen to help bear expenses. I found the Monitor a remarkably easy seller and the sales so great that I returned home and closed out my business and began working with the Monitor exclusively. I have worked 32 days during which time my profits amounted to $480.00, so I am with the Monitor for good and always. Yours truly, B. F. BROWN, Oklahoma.

THE MONITOR SELF-HEATING IRON has abolished ironing day drudgery in over 650,000 homes—

It does away with the hot stove, saves the tiring steps back and forth to change irons, and allows the housewife to do her ironing in any part of the house, on the porch or out of doors. The saving in fuel will pay for the Monitor in a short while—but the convenience, the saving of time and work, are even bigger reasons and will appeal even more strongly to the housewife. The Monitor maintains an even temperature all the time. Its simple burner is easily regulated. It cannot over-heat. It is simple to operate and perfectly safe. Monitor Irons have improved continuously and have always maintained their lead in simplicity, convenience and handsome appearance.

Reasons Why You Should Sell the Monitor It is the best looking, best finished and handiest self-heating iron made. IT IS THE LOWEST PRICED IRON SOLD. It is backed by a money-back guarantee that means something. It is made by an old established company, strong financially, and in business to stay.

Send the Coupon and

do it at once. Let us make you independent

Our Sales Manager will take a personal interest in your instruction, and will lend all his experience and energies toward making you thoroughly familiar with every detail of the business. He is a Master Salesman. His record has been one of brilliant success. He knows the theory, the science and the practical elements of successful salesmanship, and he trains all of your abilities into practical daily results. Therefore, don't hesitate on account of a lack of experience. There are thousands of men and women today doing hard, profitless work, who have the ability to be as good salesmen as the very best, but they don't know it—they lack the courage—they hesitate. Mail the Coupon Today to

THE MONITOR SAD IRON CO.
688 Wayne St., Big Prairie, Ohio

Send This Today

R. R. STERLING, Sales Manager
The Monitor Sad Iron Co., 688 Wayne St., Big Prairie, Ohio

Gentlemen:—I am sending this coupon for new selling plan and sample Sad Iron. **RUSH.**

Name _____

Postoffice _____

Street and No. _____

Summer Leaders in Embroidery

3 Handkerchiefs for 10 cents

READY-MADE WHITE LAWN HANDKERCHIEFS

They are appropriate gifts to make to any one, and the one receiving them will appreciate them much more if the giver takes time to put a bit of her own work in the corners. Here is a set of three ready-made lawn handkerchiefs, stamped with simple design. Embroidery floss for working is included and our eight page embroidery booklet All sent prepaid for only 10 cents

Boudoir Cap, 10c

This pretty boudoir cap for embroidery is stamped on white lawn. With a finishing touch of lace trimmed edge and knots of ribbon this design makes a charming and dainty cap. Sent postpaid for only 10c.

FANCY PIN CUSHION 10c

This dainty pin cushion is stamped ready to be embroidered on art white linene and measures 8x17 inches. We will include our illustrated embroidery booklet illustrating all the principal stitches in embroidery. All sent postpaid for only 10 cents.

The prices quoted on the above items are in reality the wholesale prices and will be withdrawn very shortly. Order what you need while you can save money. All orders promptly filled.

The Embroidery Mills, Springfield, Ohio

Third ($3.00) Prize Automobile Contribution

By Harry D. Akers, Indiana.

The farm automobile can be turned to good account in many ways. It is practically a "Jack-of-many-trades," and one cannot realize the possibilities of its wide and varied usefulness until after a little calculation as to its use. Since the auto can be readily transported from place to place each task can be done properly, thoroughly, conveniently and economically.

For the wife the automobile will perform four very important duties, namely: washing, churning, separating and pumping water. Not many women on the farm are enamored with the drudgery of the old-fashioned wash-day. The auto can eliminate this work, as well as that of churning, separating and pumping water, thereby saving time, labor and backaches.

The wood supply, too, on the farm is often a source of worry. It is, we admit, good exercise to saw wood, but the farmer is generally of the opinion that he can get sufficient exercise in some other manner, so the automobile helps solve this problem.

The grindstone too, has lost its terrors, for the sharpening of tools is easily and quickly accomplished through the use of the automobile.

It is possible also to grind grain so fast that whole grain is seldom fed. Knowing that the crushing and grinding of grain increases its digestibility, most every farmer who owns an automobile has already used it for grinding grain.

Most farmers shell their own corn, but where one has a number of fowls, sheep, etc., this, even with a hand sheller, proves a job. The auto can be connected with the sheller, and in less time than it takes to tell it the corn is shelled.

Many think cleaning seed is a waste of time, but the wise farmer lets the auto run the fanning-mill while he looks on and reaps the benefit.

Last but not least, sufficient current can be obtained to supply lights in and around the home. While the automobile salesman emphasizes the "pleasure-giving" feature of the auto, yet there are certainly many ways in which an automobile can be put to practical "pleasure-giving" use on the farm.

CUT WORMS

Frequent requests have been received relative to injury caused by worms in alfalfa fields. These worms are the common cut worms, which are more or less prevalent every year.

The brownish moth lays the eggs for this generation late in the summer or early fall on grasses. The young cut worms hatch and feed upon the adjacent vegetation. With an abundance of food the small larvae attract very little attention, burrowing into the ground during the day, and feeding only at night. At the approach of winter the larvae, which are about half grown, burrow into the soil and hibernate, coming up again the next spring and feeding upon whatever vegetation is at hand. Their depredations continue until the middle or latter part of May, when they become full grown and burrow into the soil about two inches, and there transform to pupae and adult. About the middle or latter part of June, the moths emerge, and cause no little annoyance by entering houses and fluttering around the lamps at night.

Under ordinary conditions prevention is the best remedy. Plowing in the late fall or early spring, with frequent disking or harrowing, will be effective. In areas where the worms are concentrated, an application of arsenical bait will prove effective. A good formula is as follows:

Paris green, ½ lb; Bran, 50 lbs; Syrup, 1 qt; Water, 2 gals.

Mix while dry the Paris green and bran until an even color is attained. Then stir the syrup and water, making a crumbly, but not sloppy mash. Scatter this mixture thinly over the infested areas in the afternoon or early evening. The amount to be used will vary in accordance with the severeness of the attack, but ordinarily, twenty-five to forty pounds is sufficient to cover an acre.—C. R. Jones, Col. Ag. Col.

A baby is like a trust—it's a nuisance until you have one of your own.

Did you ever stop to think what the release of half your corn acreage to pasture would mean in the live-stock industry? One man in a Middle-Western state estimates that it would furnish at least 250,000 head of cattle annually. And, he goes on to show that the concentrated effort on a smaller acreage of corn would not mean a decrease in the crop, but rather an increase. This, he claims, has been demonstrated by farmers who have followed the methods prescribed by the boy corn growers.

FREE DURHAM DUPLEX RAZOR

To Every Man Reader of Farm News

THE COMPLETE OUTFIT COMES IN A HANDSOME RED LEATHER CASE

Do not confuse this with the cheap, ordinary kind of razor offered by most concerns. This is the World Famous Durham Duplex. A safety built on the lines of the reliable old style razor. The blades are separate (six of them), and are double edged. If you use an old style razor, you can use this Durham Duplex. Impossible to cut yourself. Handle is white imitation Ivory, hub fully nickeled; six blades of finest steel. Neat leather case with pocket for razor, one for used or dull blades, and one for sharp blades. Also has device for use in stropping. We have used one of these razors, so do not hesitate to guarantee it to you in every way. It has in times past sold as high as $5.00, but by a special arrangement with the manufacturer, we are enabled to offer the outfit, complete as described, sent postpaid, with one yearly subscription to Farm News for $1.00. Send us $1.00 today, and if, after using the razor you are not fully satisfied, we will refund your money. Could anything be more fair? Send in your subscription and $1.00 today, and get this complete guaranteed Durham Duplex Razor and outfit free. **FARM NEWS, Razor Dept. Springfield, Ohio**

A Genuine Rupture Cure Sent on Trial to Prove It

Don't Wear a Truss Any Longer

After Thirty Years' Experience I Have Produced An Appliance for Men, Women and Children That Actually Cures Rupture

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It is instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

Pennsylvania Man Thankful

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—Perhaps it will interest you to know that I have been ruptured six years and have always had trouble with it till I got your Appliance. It is very easy to wear, fits neat and snug, and is not in the way at any time, day or night. In fact, at times I did not know I had it on: it just adapted itself to the shape of the body and seemed to be a part of the body, as it clung to the spot, no matter what position I was in.

It would be a veritable God-send to the unfortunate who suffer from rupture if all could procure the Brooks Rupture Appliance and wear it. They would certainly never regret it.

My rupture is now all healed up and nothing ever did it but your Appliance. Whenever the opportunity presents itself I will say a good word for your Appliance, and also the honorable way in which you deal with ruptured people. It is a pleasure to recommend a good thing among your friends or strangers. I am,

Yours very sincerely,
JAMES A. BRITTON.
80 Spring St., Bethlehem, Pa.

Confederate Veteran Cured

Commerce, Ga., R. F. D. No. 11

Mr. C. E. Brooks,

Dear Sir:—I am glad to tell you that I am now sound and well and can plough or do any heavy work. I can say your Appliance has effected a permanent cure. Before getting your Appliance I was in a terrible condition and had given up all hope of ever being any better. If it hadn't been for your Appliance I would never have been cured. I am sixty-eight years old and served three years in Eckle's Artillery, Oglethorpe Co. I hope God will reward you for the good you are doing for suffering humanity.

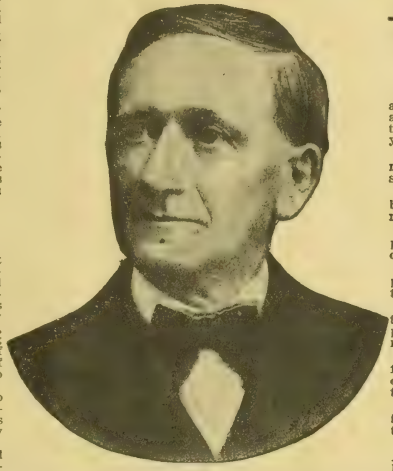
Yours sincerely,
H. D. BANKS.

Others Failed but the Appliance Cured

C. E. Brooks, Marshall, Mich.

Dear Sir:—Your Appliance did all you claim for the little boy and more, for it cured him sound and well. We let him wear it for about a year in all, although it cured him 3 months after he had begun to wear it. We had tried several other remedies and got no relief, and I shall certainly recommend it to friends, for we surely owe it to you.

Yours respectfully,
WM. PATTERSON,
No. 717 S. Main St., Akron, O.



The above is C. E. Brooks, inventor of the Appliance, who cured himself and who has been curing others for over 30 years. If ruptured, write him today at Marshall, Mich.

Cured at the Age of 76

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—I began using your Appliance for the cure of rupture (I had a pretty bad case) I think in May, 1905. On November 20, 1905, I quit using it. Since that time I have not needed or used it. I am well of rupture and rank myself among those cured by the Brooks Discovery, which considering my age, 76 years, I regard as remarkable.

Very sincerely yours,
Jamestown, N. C. SAM A. HOOVER.

Child Cured in Four Months

21 Jansen St., Dubuque, Ia.

Brooks Rupture Appliance Co.

Gentlemen:—The baby's rupture is altogether cured thanks to your Appliance, and we are so thankful to you. If we could only have known of it sooner our little boy would not have had to suffer near as much as he did. He wore your brace a little over four months and has not worn it now for six weeks.

Yours very truly,
ANDREW EGGENBERGER.

Ten Reasons Why

You Should Send for Brooks Rupture Appliance

1. It is absolutely the only Appliance of the kind on the market today, and in it are embodied the principles that inventors have sought after for years.

2. The Appliance for retaining the rupture cannot be thrown out of position.

3. Being an air cushion of soft rubber it clings closely to the body, yet never blisters or causes irritation.

4. Unlike the ordinary so-called pads, used in other trusses, it is not cumbersome or ungainly.

5. It is small, soft and pliable, and positively cannot be detected through the clothing.

6. The soft, pliable bands holding the Appliance do not give one the unpleasant sensation of wearing a harness.

7. There is nothing about it to get foul, and when it becomes soiled it can be washed without injuring it in the least.

8. There are no metal springs in the Appliance to torture one by cutting and bruising the flesh.

9. All of the material of which the Appliances are made is of the very best that money can buy, making it a durable and safe Appliance to wear.

10. My reputation for honesty and fair dealing is so thoroughly established by an experience of over thirty years of dealing with the public, and my prices are so reasonable, my terms so fair, that there certainly should be no hesitancy in sending free coupon today.

Remember

I send my appliance on trial to prove what I say is true. You are to be the judge. Fill out free coupon below and mail today.

Free Information Coupon

C. E. Brooks,
1775C STATE ST.,
Marshall, Mich.

Please send me by mail in plain wrapper your illustrated book and full information about your Appliance for the cure of rupture.

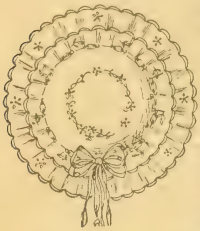
Name .....

City .....

R. F. D. .....State.....

Big Bargain Sale of FANCYWORK

We want to advertise our goods to the readers of this magazine and are offering these exceptional bargains at the low price of 10 cents each, postpaid. Send us your order for one or more items and if you are not fully satisfied we will cheerfully refund your money.



FANCY PIN CUSHION No. 13

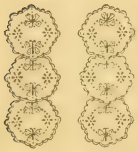
This dainty pincushion is stamped ready to be embroidered on art white linene and measures 8 x 17 inches. We will include our illustrated embroidery booklet illustrating all the principal stitches in embroidery. All sent postpaid for only 10 cents. Address

CENTER-PIECE No. 14

This beautiful conventional butterfly design centerpiece, is an exceptional bargain. It is stamped on a fine quality white linene, and measures 18 x 18 inches. We include our embroidery booklet in this offer. All sent prepaid for only 10 cents.

TABLE SET No. 15

Consists of one small centerpiece and four dollies to match, stamped on a fine quality of white linene. We include our embroidery booklet in this offer. All sent prepaid for only 10 cents.



DOILY SET No. 16

Comprising of six conventional design dollies, measuring 5½ x 5½ inches, stamped on a good quality of white linene. With this set we include an eight-page embroidery booklet. All sent prepaid for only 10 cents.

Table Set No. 17

Consists of one tray cloth, size 8 x 17 inches, and four dollies to match, size 5½ x 5½ inches, stamped on a fine grade of white linene. Our eight-page embroidery booklet is included in this offer. All sent prepaid for only 10 cents.

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The Embroidery Mills Springfield, Ohio

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for $1.

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PARKER'S HAIR BALSAM

A toilet preparation of merit. Helps to eradicate dandruff. For Restoring Color and Beauty to Gray or Faded Hair. 60c. and $1.00 at Druggists.

KIDDER'S PASTILLES For 50 yrs. a standard relief for **Asthma**. All druggists, or by mail, 35c

STOWELL & CO., Mfrs., Charlestown, Mass.

Chic Styles for Summer

Summer Fashion Book Sent for 2 Cents if Ordered With Pattern

Send all orders for patterns to FARM NEWS, Pattern Department, Springfield, Ohio.

Description of Patterns Shown Above

7250—Ladies' Shirt Waist—This simple, tailored waist has plain front and back. The neck may be finished with standing or flat collar and the sleeve be made long or short, with roll cuffs or plain finish for long sleeve. Cut in sizes 34 to 48 inches bust measure. Price, 10 cents.

7234—Girls' Dress—Has new, straight skirt, gathered at high waistline and joined to a short waisted bodice with frill at edge. Cut in 6, 8, 10, 12 and 14 years. Price, 10 cents.

7269—Ladies' Dress—Small collar and long revers at neck and closing; lower portion of front overlaps the belt of contrasting material. The three gore skirt may be made with or without the band facings. Cut in sizes 34 to 46 inches bust measure. Price, 10 cents.

7256—Misses' Dress—The neck is open with standing collar at the back, and the sleeves are plain and either long or short. The three gore skirt has a yoke at sides and back, with plain full length panel in front. Cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

7239—Boys' Middy Suit—This model has small trousers made with the open edge at the knee. The blouse is quite long, with or without the wide sailor collar and with the sleeves made either long or short. Cut in sizes 2, 4 and 6 years. Price, 10 cents.

7239—Ladies' Dressing Sacque—This is a one piece garment, but in any fabric less than fifty-four inches wide it will require a seam down the center of the back. The cap is in one piece also. Cut in sizes 36, 40 and 44 inches bust measure. Price, 10 cents.

7257—Ladies' Apron—This novel design shows an apron without shoulder seam and with the entire front of the bodice covered and having small sleeves and back yoke in one piece with front. Cut in sizes 36, 40 and 44 inches bust measure. Price, 10 cents.

7254—Boys' Blouse Suit—In this suit, the blouse is double breasted and closes at the side. The trousers are of regulation make, and have the edge at the knee straight and open. Cut in sizes 4, 6, 8, 10, 12 and 14 years. Price, 10 cents.

7247—Ladies' Four Gore Skirt—Made with pleats at each side seam but with front and back entirely plain. There is a shaped yoke, dipping slightly downward in front and back and closed by a lacing at the side. Sizes 22 to 32 inches bust measure. Price, 10 cents.

7253—Girls' Middy Dress—Separate skirt, with panel front and side pleats from this to the panel back. Cut in sizes 6, 8, 10 and 12 years. Price, 10 cents.

7265—Ladies' Dress—This practical frock shows one of the new straight skirts. The blouse has a plain back, but the fronts are gathered along the shoulder seam. Sizes 34 to 44 inches bust measure. Price, 10 cents.

Kinks in Corn Culture

The Few Little Things Which Makes the Difference When the Nubbins are Counted

SHALLOW CULTIVATION OF CORN

Perhaps nine out of ten corn fields are cultivated with four-shovel implements, because few farmers have the nerve of the progressive factory superintendent who threw an engine on the scrap-heap every morning before breakfast as a starter for the day's work.

And that's not altogether a joke either. A good machinist insists on having the best he can get and on using up-to-date machinery. No matter if the old outfit is still good for another year, it goes to the dump heap if a new one is invented that will do more or better work. Strenuous competition and the everlasting struggle for higher efficiency compel it.

A good farmer is a laboring man, a working capitalist and a factory superintendent all in one. If his methods of manufacturing finished products from the raw materials of the soil are out of date, he is almost sure to lose out through the fierce competition of smarter men.

In spite of all that has been said about the shallow cultivation of corn, how it conserves soil moistures and saves the lateral corn roots from big-shovel destruction, the facts are as aforesaid—at least nine-tenths of the fields in the heart of the corn belt are cultivated with implements which cut the corn roots, and leave the surface of the ground in such shape as to invite the rapid evaporation of soil water.

A profitable crop of corn cannot be be grown without plenty of moisture. Indeed if a man tried to put into one sentence the chief menace of bumper crops doubtless he would say "dry weather." Corn is a rank feeder of fertility and of moisture. It does not withstand drouth comfortably. Dry seasons and hot winds put the corn plant where little marketable grain is possible. Wherefore it would seem like good thrift to take care of the rainfall and make it go as far as possible.

Shallow cultivation creates the famous "dust-mulch" which is effective in checking evaporation of soil moisture; it destroys weeds—those thieving parasites which suck the life-blood from the ground; it lets in the air and sunshine, and otherwise aids in the necessary nitrification of inert plant food.

Level, shallow cultivation is useful for corn-belt farmers in saving up the soil moisture for the not and dry midsummer season when the fate of the crop is decided. It is imperative in the case of the "dry-farmer."

Instead of the old-fashioned four-shovel cultivator that grandfather used in the days when nobody knew much about scientific farming, the old frame can be fitted out with smaller shovels, or even harrow teeth if desired, thus saving the purchase of a new implement. The expense for a modern, surface cultivator is not great, and the extra bushels at picking time will more than cover its cost.

According to the Weather Bureau records we get a serious drouth every five or six years in the Mississippi valley. In other years there are almost always a number of weeks in July and August when we would welcome a little more rain.

The rainfall in the middle west for this year is already several inches below normal. It is too early to predict a dry year, but the chances are that we will need all the precipitation we will get, and then some. Anything the corn grower can do to squeeze the last drop out of the rainfall will repay the effort when corn-harvesting time comes.

HOW PETER LUX GROWS CORN

Peter Lux, the champion corn breeder, who took the prize for the world's best white ear of corn at the National Corn Show at Dallas, Texas, last year, and who has within the past five years taken more individual corn prizes than any man, says that after the corn is six or eight inches high he goes through the field and sows the seed from about four ears of corn to twenty acres. This second planting is to insure pollenization of the whole field, for if the season happens to be dry the sun will kill the pollen in the tassels on the corn of the first planting. This second planting tasseling out later at it does, supplies live pollen to a field, and one stalk will pollenize one-half acre.

Mr. Lux says, "I never pull the suckers off my corn. I learned this from my father, who was one of the best farmers of his day and generation, and who followed certain practices as the result of observation and experience, but without knowing the real reasons. I think the real reason is that the sucker, being the first of the plant to die, is a scheme of conserving nourishment for the main stalk, which is drawn into it during the final development."

The Southern farmer will do well to hang onto cotton as a cash crop. While making his experiments in diversification—for with many of them it will be experiment—he had better hold onto something he knows all about until he finds out just what crops suit his conditions. It would be the height of folly to sow a crop and then not be prepared to care for it when it matured, or not be in a position to market it at a profit. This last feature is one deserving of the greatest attention. A thousand bushels of wheat without an elevator in sight would be just as unprofitable as 25 bales of cotton with the market away below the cost of production. Locate the market first, then look after the means of transportation. If both of these are favorable then decide on the crop best suited to the locality.

Only Work Shoe GUARANTEED For Six Months!

Newest idea in work Shoes! Bilger's all Leather SIXMO work Shoe! **Absolutely waterproof, dustproof and acidproof.** Only work shoe guaranteed for six months. Only work shoe that can stand up under this unparalleled guarantee. **Legal Guarantee Bond with every pair.** All hand made. Solid leather throughout. Made to measure to fit your own feet. The exclusive Bilger SIXMO Process. No paper or cheap leather as in ready made or machine made shoes. No screws or threads to hurt the feet. Wonderful foot ease. Send coupon for full description.

Sensational Wear

Most expensive, soft, grain leather specially treated to resist the acids of milk, soil, barnyard, etc. Takes six months to tan the first sole leather. This followed by the reinforced Second Sole. And then a solid leather insole. Heels solid leather throughout. Heels can't come off. Insoles composed of single piece of leather worked and reworked to a uniform thickness and smoothness. New style tongue. Keeps out dust and water. Never harden.a All together, the cheapest-to-wear work shoe ever made.

10 Days' Free Trial

Prove everything to yourself at our risk. Get a pair on 10 days' free trial. Your money back if you are not delighted. These shoes are light, flexible and springy. Save your feet from aching and burning. Finest looking work shoe ever designed. Pay for themselves over and over again in the shoe money they save. Sensational price to introduce. Write for price, description and all particulars of this offer. Send coupon, letter or postcard.

Free Book Coupon

BILGER BROS., Shoemakers,
2456-2460 N. California Ave., Chicago, Ill.

Gentlemen:—Please send your book describing your SIXMO Work Shoe; also your special introductory price and full particulars of your 10 days' free trial offer. Also copy of your printed 6 months' Guarantee.

Name .....

Address .....

AGENTS: $6 PER DAY AND UP

MEN AND WOMEN

Out of work? Get a lot of spare time? Handling a poor line now? We want an active man or woman in each town to open an agency for our famous

NON-ALCOHOLIC FOOD FLAVORS

Colors, Soaps, Perfumes, Toilet Preparations, etc. Over 100 different varieties. Flavors put up in tubes, not bottles. Fast sellers, steady repeaters. Every home a customer. Commissions paid in real money—$4, $6, $8, $10 a day. Little or no capital required. Experience unnecessary. Full instructions for beginners. Fine light sample case furnished. Write for full particulars.

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AMERICAN PRODUCTS CO., 67 Third Street, Cincinnati, O.

Delivered TO YOU FREE on Approval and 30 days Trial

SEND NO MONEY but write today for our big 1915 catalog of *"Ranger"* Bicycles, Tires and Sundries at prices *so low they will astonish you.* Also particulars of our **great new offer** to deliver you a ***Ranger*** Bicycle on **one month's free trial** without a cent expense to you.

BOYS you can make money taking orders for bicycles, tires, lamps, sundries, etc. from our big handsome catalog. **It's free.** It contains "combination offers" for re-fitting your old bicycle like new at very low cost. Also much useful bicycle information. Send for it.

LOW FACTORY PRICES direct to you. No one else can offer such values and such terms. You cannot afford to buy a bicycle, tires or sundries without *first learning what we can offer you.* **Write now.**

MEAD CYCLE CO., Dept. R128, CHICAGO, ILL.

BOYS Earn a Watch FREE

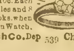
I will give you ***FREE and Postpaid*** a handsome, genuine, ***Pure Simulated Gold Watch*** for doing 15 minutes advertising work. Watch absolutely guaranteed. Write me *now*—to-day, *quick* and I will send you my simple and easy plan by return mail. Send me your name and address *right away.*

TYSON JARVIS, Box 33, Spencer, Indiana

WATCH RING and CHAIN FREE

SELLING NEEDLE BOOKS

We positively give FREE a STEM WIND, STEM SET, RICHLY ENGRAVED WATCH, equal in appearance to Solid Gold Watch, Guaranteed 5 yrs & Beautiful Im. Diamond Ring for selling only 20 Needle Books at 10c. Each book contains 3 packs needles and 8 darning needles. Order 20 books. when sold send us $2, we will send you Watch, Chain & Ring.



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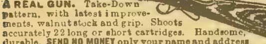
1915 MODEL 22 Cal. HUNTING RIFLE Free



A REAL GUN. Take-Down pattern, with latest improvements, walnut stock and grip. Shoots accurately 22 long or short cartridges. Handsome, durable. **SEND NO MONEY** only your name and address for my easy plan of securing this fine rifle **Absolutely Free express prepaid.** Write today. **D. W. BEACH, Box 33, Spencer, Ind.**

WE WILL GIVE

This **GOLD PLATED EMBOSSED LOCKET and 22-inch CHAIN**—Locket opens to hold two pictures and is set with a perfect similitude **DIAMOND**—and these **4 GOLD PLATED RINGS Absolutely FREE** to any one that will sell only **12** pieces of jewelry at **10 Cents each** and return us the **$1.20.** WE TRUST YOU and take back all not sold. Address

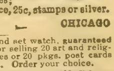
C. D. DALE MFG. CO. Providence, R. I.

HOWARD BICYCLE

Something new in a bicycle; you cannot afford to buy until you get our 1915 catalog. Make some extra money, be a rider agent. Write to-day.

HOWARD CYCLE CO.
Dept. K. Trenton, N. J.

X-RAY KATHODOSCOPE. Latest pocket curiosity. Everybody wants it; tells the time on watch through cloth. Apparently see your fellow, best girl or any object through cloth wood or stone, any distance, all climates; lasts lifetime; always ready for use. Price, 25c, stamps or silver.



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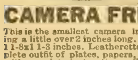

Stem wind and set watch, guaranteed 5 years, for selling 20 art and religious pictures or 20 pkgs. post cards at 10c each. Order your choice.

GATES MFG. CO. Dept. 409 Chicago

CAMERA FREE WITH PAPER

This is the smallest camera in existence, being a little over 2 inches long. Takes pictures 1 1-8x1 1-3 inches. Leatherette covered. Complete outfit of plates, papers, chemicals, etc. with complete instructions. Send us a yearly subscription to our magazine at 25c and we will send you the camera and outfit free. This offer made to introduce **The Home Magazine, 141 W. Ohio Street, Dept. 56, Chicago.**

LOUISA MAY ALCOTT

By Lilly Johnson

The little girl born in Germantown, Pennsylvania, November 29th, 1832 (the thirty-third anniversary of her father's birth), who was cristened Louise May, later became the world's best-loved story-teller for children. Her books have been translated into many foreign languages, and have thus introduced "real" American boys and girls to our scattered world cousins. She was able to write these fascinating stories because she understood and loved children, and always carried in her heart the memory of the time she was a girl playing with her sisters and schoolmates. The Alcott's were never rich save in loving family life, the refinement and generosity which bound friends to them, and the ambition which made them strive to do their part worthily in the world.

Louisa's most famous book is "Little Women," in which she tells the story of four sisters, Meg, Joe, Beth and Amy; who were really Anna Bronson, her eldest sister; Louisa May, herself; Elizabeth Sewall, the dear "Beth" who was dearest to her, and Abba May, the artistic youngest, who so craved a beautiful nose, not the least snubby, that she sometimes slept with a clothespin fastened to it to make it more tapering. This book opens upon a dreary winter day, with father in the army, and a delayed breakfast which the family donates to a very poor family who would have had none otherwise.

Then step by step, the story moves on until the "little women" have grown into really women and have left Father and Marmee for homes of their own. No make-believe people or happenings, simply the kind of lives you and I and those we know live. "Little Men," a continuation of Little Women, and "Joe's Boys," the final sequel, followed because people—men and women as well as boys and girls—just had to learn more about the March family.

She wrote other books, both for children and grownups, such as "Under the Lilacs," and "Old-Fashioned Girl," "Jack and Jill: A Village Story", and "Eight Cousins" for children; and "Hospital Sketches: Camp and Fireside Stories of the Civil War", "Moods" and "Work: A Story of Experience", for adults.

Miss Donaldson, a friend of her mother's, wrote to an acquaintance when Louisa was about a month old: "She is the prettiest, best little thing in the world. You will wonder to hear me call anything so young pretty, but it is really so in an uncommon degree; it has a fair complexion, dark bright eyes, long dark hair, a high forehead, and altogether a countenance of more than usual intelligence."

The earliest anecdote remembered of her tells of how when the family went from Philadelphia to Boston by steamer, she and her sister Anna were nicely dressed in clean frocks, but they were not long upon the ship before Louisa was missing. After a long search she was found in the engine room, where she was having a beautiful time with "plenty of dirt."

Mr. Alcott was a dreamy man who generally taught school for a living. His methods were quite advanced for that time, and were not popular. Many of these have since been adopted and proven successful. He also believed in community co-operative living, and for a time the family, together with a number of others, lived in such a community known as Fruitlands. This was an unsuccessful and unlovely experiment. Mr. Alcott, while a good man, and one who loved his family, never was practical, and the Alcotts would have really suffered from poverty had it not been for friends and relatives who interested themselves. As soon as his two eldest children were old enough they worked, Anna as a schoolteacher, and Louisa at many different things, such as sewing, teaching, helping in families as a domestic, and writing. Mrs. Alcott also did teaching and conducted an employment agency for a time. Beth kept the home. The youngest, Abba May, the "Amy" of Little Women, was spared the disagreeable things of their self-denying life largely.

The dream of Louisa's life was to make her family comfortable and to give her mother, especially, the beautiful things of life. She says in her Journal beneath a poem "To Mother" she had written under her mother's picture "The dream came true, and for the last ten years of her life Marmee sat in peace, with every wish granted, even to the 'grouping together,' for she died in my arms." Louisa never married.

The reason success came to her was because she never gave up, though seemingly handicapped in every possible way. She kept her heart singing the while her hands wrought and her brain planned. She sought for the romance in everyday life and people, and having found it wove it into books and stories. It was at first hard for her to place her stories, but gradually her powers of expression increased, and naturally her work sold more readily. She would write at odd free times, and at night, when the day's work was over, until she had made such a market for her brain children that she could devote her whole time to writing. She became wealthy from her books, and left her fortune to her nephew's children of her eldest sister, Anna.

Always generous and never willingly idle, she insisted upon working unto the last; a flannel garment for a poor child being the last work of her hands. Her nervous system seemed to be utterly prostrated by the years of constant work, struggle, and denial through which she had passed, and she said "I don't want to live if I can't be of use." At this time her father became ill, and the exertion of going to him proved too much for her failing strength, and so, at 3:30 p. m., March 6th, 1888, she passed quietly to heaven.

A MAKEUP MAN'S MIXUP

In handling the slugs which make up the lines in a newspaper, and in separating the various items, the makeup man sometimes gets the lines mixed up and they naturally read rather queer. As an illustration of what can happen, we cite the mixup of the Bangor (Pa.) News a few days ago when the printer got a wedding and an auction sale mixed up with the following results:

"William Smith, the only son of Mr and Mrs. Jos. Smith, and Miss Lucy Anderson were disposed of at public auction at my farm one mile east, in the presence of 70 guests, including two mules and 12 head of cattle.

"Rev. Jackson tied the nuptial knot for the parties, average 1,250 pounds on hoof. The beautiful home of the bride was decorated with one sulky rake, one feed grinder and two sets of work harness, nearly new, and just before the ceremony was pronounced the Mendel and Sons wedding march was rendered by one milch cow, five years old, one Jersey cow and one sheep, who carrying a bunch of bride's roses in her hand was very beautiful. She wore one light spring wagon, two crates of apples, three racks of hay, one grindstone of mousseline de sole and trimmings with about one hundred bushels of spuds. The bridal couple left yesterday on an extended trip. Terms, spot cash."

IT HELPS A LOT

Eve, for the first time in their married life, was telling Adam just what she thought of him.

"This is the original rib roast," chuckled Adam.

And that was the beginning of the saving grace of humor.—Judge.

A man who believed in pedestrianism coaxed a friend to accompany him on a little jaunt. Every time they crossed the road, his friend looked first one way and then the other and refused to budge if there chanced to be a motor car in sight.

"It's all well enough to be careful," said the pedestrian, "but you seem to have let automobiles get on your nerves."

"I've good reason to be careful," answered his friend. "The insurance policy I carry is void if I get run over by one."—Judge.

MATCHED TEAMS FOR FARM WORK

(Continued from Page 5)

Each farmer should have an ideal of the type of horse best suited to his requirements. In other words his horses should be so moulded physically and mentally that they will prove adapted for a distinctive purpose. Horses are produced for definite uses and should clearly indicate their adaptability. Variations from a uniform standard account for the difficulty in matching for farm work. Two Clydesdales may have the same color and approximately the same size, and yet constitute a poorly matched pair, for the reason that one may have been bred mainly for size, the other for action, but having received better feed and care matured at about the same weight. If a man should breed for about the same size, quality and disposition, and then supply feed and care with generous hands, the lines of type would gradually converge toward one point until all of his horses would possess a distinctive type and disposition. I do not understand why so many farmers are content to select mares of varying types and dispositions, and hope for uniform results, even though they may secure the services of ever so prepotent a stallion with which to mate them.

The similarity of temperaments in the horses on many farms is frequently traceable to one or two foundation mares, who have been mated with one stallion until the offspring approach the owner's ideal. Such animals possess an added value and always command a ready sale in any locality where their qualities are established. The farm demand for matched teams seems destined to persist for years. In most cases a man can raise better horses than he will buy. The colts from his mares will mate more closely in disposition, and will prove better adapted to his requirements than purchased horses. Every man who starts with a foundation of good, uniform mares, and mates them to a suitable sire, can furnish the farm with a supply of horses at a big saving in cash.

WATCH FOR SORE SHOULDERS

Sore shoulders and sore necks may be avoided by bringing the horse gradually to his work. The best collar is made of leather and without pads. The horse will shrink in weight under heavy spring work, and if you are not careful the collar that fits at first will be too large and bruise the shoulders. It is always well to slip the collars off during the noon hour and to wash the shoulders in cold water both at noon and after the day's work is done.

Be careful about feeding corn, wheat or barley. If the horse knew enough to mix his hay with these "concentrates" all would be well, but since he does not, any of the grains mentioned may form a compact mass in the stomach that cannot be reached by the digestive juices, and a violent colic will result.

Do not require the tired horse to stand on an inclined plank floor. He will not lie down and rest as he should.

See that his teeth are in condition to properly masticate his food. A little dentistry once or twice a year will often save many dollars' worth of feed and frequently the animal's life.

If farm horses were treated with the consideration which they deserve, they should come through the spring work with sound feet, sound neck and shoulders, and keep in fair flesh. There is no advantage in working a horse down until he is poor; and if he becomes disabled, it is quite sure to be the fault of the farmer, and not the horse.—Geo. H. Glover, Col. Ag. Col.

CAMERA AND COMPLETE OUTFIT 30c

A Leatherette covered camera and complete outfit of plates, paper, chemicals, etc., with Complete Instructions so any boy or girl can take GOOD PICTURES of Landscape, Buildings, Friends, etc. No dark room required. No printing. **Pictures taken and finished in 2 minutes.** Send us year's subscription to our magazine at 25c and 5c extra for postage and we will send camera and outfit free. Offer made to introduce.

EVERYDAY LIFE, Dept. 6C43, Chicago

WATER PISTOL 25c

Shape of 6 shot repeater. Handsomely nickel plated. Beautifully finished. Shoots accurately 30 feet straight to the mark. Loads of fun. Surprise your friends with a laugh-provoking shower bath. Perfectly harmless. Send 25 cents to pay for a year's subscription to EVERYDAY LIFE, and we will send Water Pistol FREE with our compliments to introduce.

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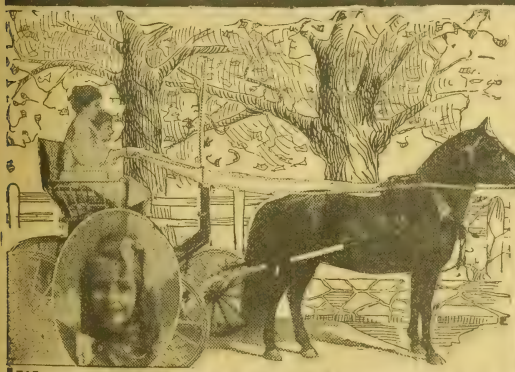
Combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector or complete suit, including shirt, pants, cap and belt, good quality, extra well sewed. Send name and we will send you 3 sets of our fine pictures to dispose of on special offer at 25 cents each. Send us the $3 you collect and for your trouble will send you outfit as described. Write today for pictures. **Ship the outfit at once.**

M. D. SEITZ, 6M43 Chicago

42 PIECE INITIAL DINNER SET FREE This beautiful set of exquisite design **has your initial in gold on every piece.** 42 pieces in all, including platters, vegetable dishes, etc., full size, for family use. **Send No Money,** just name and address. We want one hour of your time. No good of any kind to sell. No promise or obligation whatever. The best offer made. Just write.

ROBERT CURRIER, Mgr., 141 West Ohio Street, Dept. AS4, Chicago, Ill.

FREE Shetland Ponies



Carriage, Harness, Saddle & Bridle

AND HUNDREDS OF OTHER FREE GIFTS

In the picture here you see Emma Williams and her pony. I gave her the entire outfit. She was the most delighted person in the world. In the picture here are several hidden faces. Can YOU find them? I will give a beautiful Shetland pony, carriage and harness free to the one person who has the greatest number of votes to his credit at the end of this contest. For each face you can find in this picture I will give you 1000 votes. Now this is YOUR chance. *In case of a tie in the votes, a pony will be given to each person so tied.*

SEND NO MONEY— JUST YOUR NAME AND ADDRESS

Mark the location of the faces with an X plainly, and we will immediately enter you as a contestant for this magnificent Shetland pony outfit, which includes pony, carriage, harness, saddle and bridle; all sent direct to your home, all charges prepaid. A more beautiful pony you never saw than this one. As soon as we hear from you we will send you his picture, also full particulars telling how you can easily secure him—besides the pony we have hundreds of other presents we give away.

We positively have a present for everyone who enters this contest! Be sure and send your name in today with the hidden faces all plainly marked and get the free pony votes. It is the easiest thing you ever saw. I have given away over thirty Shetland ponies to boys and girls all over the United States, besides thousands upon thousands of other beautiful presents. BE SURE TO WRITE TODAY, and see how to get the pony.

Address MATT YOUNG, Pony Man, 215 South Wittenberg Avenue, SPRINGFIELD, OHIO

Suppose We Pared This Tire

Suppose this All-Weather tread—which is now double-thick—were pared to the thinness of the usual anti-skid. Do you think that the grips would endure and the tread endure as now? Or would it resist puncture like this matchless tread?

Suppose we used—as some do—one less ply of fabric. Suppose the whole tire were made lighter. Could the tire stand use or misuse as Goodyear tires do now?

Suppose we omitted our other exclusive features:

Our No-Rim-Cut feature—

Our "On-Air" cure to save blowouts—

Our rubber rivets to combat loose treads—

Our 126-piano-wire base for security.

All others do omit them. All of them are costly. One of them — our "On-Air" cure — costs us $450,000 yearly.

But could Goodyear Fortified Tires retain top place if we did not give those extras?

We're Adding Betterments

Instead of that, we are all the time adding betterments. We spend on one department $100,000 yearly to seek out new improvements.

Our All-Weather tread—always double-thick—has been made still thicker on some sizes.

We have added an average of 14 per cent to the thickness of our Inner Tubes.

And we are making our own fabric to secure an extra strength.

Price Reductions

Yet we have made big price reductions three times in two years. Our last—on February 1st—brought the total to 45 per cent. That is largely due to multiplied output.

Today you are getting in Goodyear Fortified Tires the best value ever known in tire making.

It is due to yourself that you get these tires. They are saving millions of dollars and millions of troubles to motor car owners each year. And men know this. Last year they bought about one Goodyear tire for every car in use.

Join these contented tire users. Any dealer will supply you.

GOODYEAR

Fortified Tires

Fortified Against
- **Rim-Cuts**—by our No-Rim-Cut feature.
- **Blowouts**—by our "On-Air" cure.
- **Loose Treads**—by many rubber rivets.
- **Insecurity**—by 126 braided piano wires.
- **Punctures and Skidding**—by our double-thick All-Weather tread.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and other Types

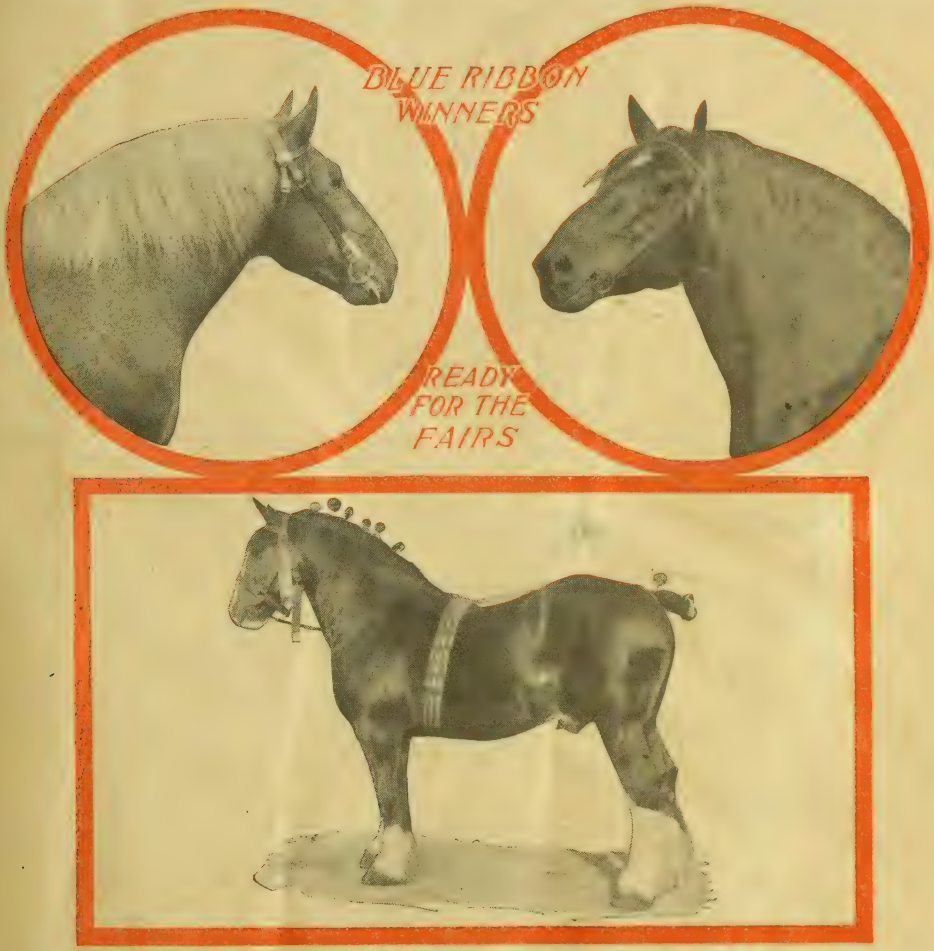
(2408)

FAS

FARM NEWS

All that is New and Best for the Farmer

JULY Springfield, Ohio 1915



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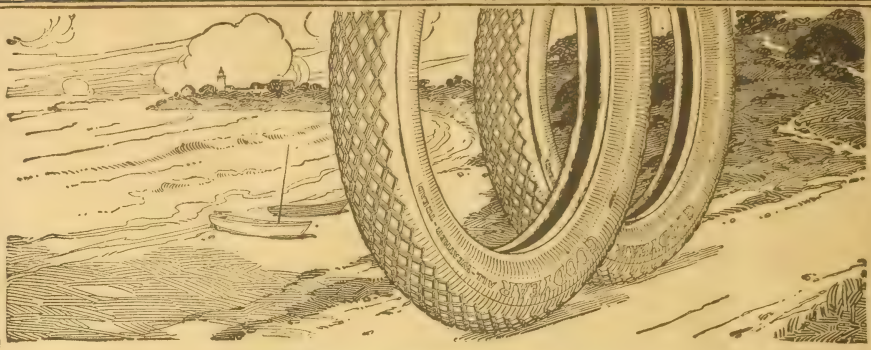

Goodyear Passes Goodyear

$500,000 Better

Yet Users Pay $5,000,000 Less

Note these amazing facts:

Goodyear tires, as built this year, will cost us $500,000 more than if built like 1914 Goodyears.

That's because of improvements.

Yet this year's output will cost our users some five million dollars less than if sold at 1914 prices.

That's because of a big price reduction, made February 1st. It was our third in two years, totaling 45 per cent.

Why Better Tires?

You ask why we add that half-million dollars in face of such reductions.

We have always added every betterment our experts could discover. And we spend on research $100,000 yearly just to seek improvements out.

Goodyears may pass Goodyears, but we make sure that no rival ever can.

What Extras Cost

Goodyear Fortified Tires embody many extras. Five of them are features found in no other tire that's built. Others are found in but few.

Based on current output, those extras this year will cost us $1,635,000.

That is, if we omitted our exclusive features, which all others do omit—

And other protections which most makers omit—

We could probably add to our profits this year more than 1½ million dollars.

But What of You?

But Goodyear users would pay. Those extras save our users many times the cost to us.

In those extras lies the reason why Goodyear outsells any other tire. And in that mammoth output lies the reason for the value that we give.

Think of these things when other tires are offered. Each Goodyear extra means a saving to you. Any dealer, if you ask him, can supply you Goodyear tires. (2413)

GOODYEAR
AKRON, OHIO

Fortified Tires

Fortified Against:
- **Rim-Cuts**—by our No-Rim-Cut feature.
- **Blowouts**—by our "On-Air" cure.
- **Loose Treads**—by many rubber rivets.
- **Insecurity**—by 126 braided piano wires.
- **Punctures and Skidding**—by our double-thick All-Weather tread.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and other Types

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Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV — JULY, 1915 — Number 7

THE FARMER AND HIS DOLLAR

A Matter of Grave Concern to People Who Want to Use It

JUST why there should be so much solicitude in behalf of the farmer's dollar at this time is hard to understand. Ten years ago, when the farmer and his property were legitimate prey for every sort of game that came along, no one paid any particular attention to his needs. In fact, his needs were accepted as being so few as to be negligible.

But now the farmer has a dollar—sometimes two—and, considering his numerical strength, he is worth paying some attention to. The accepted way to gain a man's friendship is to do him a favor. So the way to the Ten Billion Dollars or more that will be realized this year on his crop, is to help the farmer financially. Ten Billion Dollars represents the largest amount realized from any one business in the country, and that sum of money, according to well-posted financiers in New York and Chicago, will make a mighty nice bunch of money to handle and control.

There are farmers who need help—there are also some who need guardians. But the great majority of farmers nowadays are in a position to help themselves, and keep their money in circulation in their own neighborhood, where it aids in improving local business, and returns good interest and tangible earnings in increased farm values. And, the nub of it is, that there are already in existence the very instruments which will enable the farmer to control his own money. Farm News will tell you about it in the August number.

THE WAR GAME IN EUROPE

That the purpose of the Allies is to quench the military spirit and aspirations of Germany forever is the opinion of men in close touch with the military and diplomatic situation in Europe. But forever is a long time, and it will probably take the five years which the chancellors of the Allies exchecquer have calculated upon as being the time of the war's duration to bring about any kind of peace.

In the meantime Allied diplomacy is laboring hard to get Rumania, Bulgaria and Greece to fight on their side, and when this is brought about it will be well to watch some of their work with the nations on the north and northwest of Germany. Germany has been giving some cause for belligerent feeling on the part of Norway, Sweden and Denmark in her submarine campaign. Whether this action is through ignorance or arrogance is hard to determine, but it is rousing a spirit of retribution rather than the fear which it was sought to bring to bear.

Everything predicted at this time is but guesswork, but it can be safely asserted that when Germany reaches the defensive stage there will be the hardest fighting of the war. What with her strategic railroad system, her compact and easily accessible depots of supplies, Germany will certainly exact heavy toll for every gain made by the Allies in the closing days of the war.

No one wants to see Germany ruined, and her national existence destroyed, but there are lots of people who feel that she should have some of the arrogance and conceit removed from her system for the good of her immortal soul. This operation is as good for nations as it is for individuals.

THE COUNTY FAIR

The season draws nigh for the county fair. It is a privilege—nay a duty—for the farmer to attend this annual show, which is entirely for his benefit. True, the city cousins are also entertained and instructed, but the greater benefit goes to the farmer. But to get this benefit the farmer must go in a receptive frame of mind. Not with a feeling of skepticism or superciliousness, but with the fixed purpose of getting everything out of the exhibits worth while.

No matter what your opinion of the efficiency of county fairs, there is bound to be some knowledge gleaned which will be a money-maker for you, if you go in the proper spirit. There is an incentive for better things, a stimulating influence on latent ambition, a feeling that you could do some one thing there better than the product exhibited. Now if these impressions take a concrete form, and lead to results, the fair will have accomplished its purpose so far as you are concerned.

At these show places the most modern machinery adapted to the use of the farmer is exhibited, and in visiting Machinery Hall you are bound to run into some one who has had some experience, profitable or otherwise, with the machines. In either event you will want to know. Many a lifelong friendship has had its inception at Machinery Hall at the county fair.

The meetings with friends and neighbors from all parts of the county, perhaps with some old acquaintance who is "back home" on a visit, will repay you a thousandfold for the trouble and time lost in going. It's a treat to the family. Many a lonesome boy on the farm has been looking forward for a whole year to one little measly day at the county fair. Better take the family two or three days.

Many of the county fairs fail miserably in the purpose for which they were intended. But this is largely the fault of the farmer. A healthy sentiment among the farmers resident of the county will work wonders in reforming the policy of the county fair board. If twenty-five farmers make it their business to go to the members of the fair board, one at a time, and let them know in plain terms just what they think of the fair arrangements, the board members will soon have the impression that every farmer in the county has been to see them.

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If you find XXX opposite your name on the little address label, it means that

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Doubtless many of our friends fail to notice when their time is up, and their subscriptions are not renewed because of inattention.

Send 25 cents today.

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WE MUST DISCONTINUE SENDING OUR PAPER TO YOU

If you have recently sent your renewal, please give no attention to this notice, as from two to four weeks are usually required to change the date on the label.

Address FARM NEWS, Springfield, Ohio

BEEFSTEAK AND HIGH-PRICED LAND

How One Man Succeeded in Producing Quality Steers at a Profit Despite His Land Investment

By G. H. Dacy

"FEEDIN' many cattle this winter, Jim?" inquired a farmer from the next county, of Jim Smith, corn-belt cattleman.

"About fifty head," answered Smith. "Steer feeding don't return the easy money we used to pull from the game. It's nip and tuck now for a farmer to break even on his fat cattle. Most of us make our profit from the pork that is made on cattle wastes."

Hogs following steers are no small factor in making a profit on high-priced land in the production of beefsteaks. This practice often determines the issue between success and failure

"Look a'here, Smith," chimed in a bystander, "how do you make any money at all feeding cattle on your high-priced land? I'll be switched if your farm isn't worth two hundred and fifty dollars an acre."

"Well, neighbor," laughingly replied Smith, who apparently did not resent the intrusion on his private affairs, "I'll admit my land is pretty good, but just the same I've got to feed cattle to maintain the fertility of the farm, and to convert my corn crop into more concentrated and valuable products right on the home place. Besides I've got some rough land which is not suitable for tillage, but which makes A-one permanent pasture. To me farming without cattle would be like trying to row a boat without oars. I admit that the margin of profit in steer feeding is mighty small, but at the same time I say that the corn-belt farms that give up beefsteak making are signing their own death warrant.

"We used to feed four- and six-year-old steers for six months at a time, and make big money at the game," resumed Smith, "while today one rarely sees a fat steer on the market that is over three years of age. Why is it? you may ask, and I will answer by citing a few figures to you that speak louder than I can. During the last ten years, in the seven leading cattle states, the price of corn has advanced twenty-nine per cent, hay forty-five per cent, labor thirty-one per cent. The value of land has increased one hundred and three per cent, and the price of stock cattle has advanced thirty-six per cent. Although meat prices have gone up they have not increased in proportion to the expenses of making beefsteaks. The fact that the price of feeding cattle has advanced so much faster than the value of fat cattle has driven many farmers out of the beef-making business.

"Furthermore," continued Smith, "tenant farming, of the short-term-lease variety, has got a strong foothold in many of the feeding districts. The tenant farmer hasn't the money with which to buy cattle, and anyway he would rather cash crop his corn and hay than to bother with feeding them to steers. A third factor which is threatening the cattle business is the limited supply of stock cattle. We used to draw on the native cattle grown in the corn belt and on range steers from the West. Now most of the farmers veal their native calves, while the western ranges have been split up by homesteaders and dry-land farmers. As far as I can see our stock cattle of the future must come from the cheap lands of the southern states, or from the cut-over lands of the Northwest."

At present wheat is selling for $1.50 per bushel, the price of flour has advanced about fifteen per cent, the price of good beef is beyond the resources of the average working-man, yet the best prime steers are only bringing $9.25 on the Chicago market. Is it any wonder that the cattle feeder is befuddled? Is it remarkable that he looks with envious eyes at his neighbor who is operating a dairy farm? But then, even the dairyman, is considerably worried on account of the ravages wrought by foot and mouth disease in herds the country over.

Clover and cattle is a combination that wins on the average farm

From an impartial standpoint the beefsteak game at present needs reformation. Farmers must keep a few good beef cows, and they must raise a few head of good steers every year. The wholesale vealing of calves must be stopped. Feeders must become expert in buying and selling cattle, and they must maintain accurate daily records of the cost of producing the beef. This thing of the farmer guessing that he fed so much corn or silage or cottonseed meal, and guessing that his fat cattle cost him so much a pound, must give way to the farmer's actual knowledge and record of exactly what he does and how he does it in the production of beef. "Cattle bought right are more than half sold." is an old saying which still merits the attention and study of the steer feeder.

Uncle Sam advises the pros-

pective cattle feeder thus: "Before purchasing his feeders the farmer should estimate the quantity of feeds on hand and their market price, the number, class and size of the cattle desired, and the time required to consume the feed. Then he can estimate from market reports the approximate cost of his feeders, and with these various items available be can figure what they must sell for in order that he may break even. He is then in a position to select steers that will suit his conditions. When the steers are ready for market it usually is not advisable to hold for better prices, unless the animals continue to gain in weight and condition. Too many feeders, in looking for a better price, overstay the market and get caught on the decline."

Cattle feeding under present conditions is far from a get-rich-quick proposition. For example, recently 961 steers marketed from twenty-two of the best farms in Iowa showed a net profit per head of only $2.05. However, 1504 hogs followed these steers. A net profit of $6.67 per hog was made. On another occasion 1138 steers were sold from twenty-eight farms. These steers showed a net loss to their owners of $0.78 per head. Sixteen hundred and forty-six hogs followed these steers and brought a net profit of $3.33 per head. In figuring these accounts all the overhead charges, as well as the main cost are included. Usually the purchase price is about one-half the total cost, the feed is about one-third, and the balance consists of the interest on the investment, the labor and the shipping and selling expenses.

It costs about $4 per steer to market Central Iowa cattle in Chicago, this estimate includes freight yardage, feed, commission and shrinkage. The average shrinkage is about four per cent of the live weight of the animal. It costs a Central Kansas farmer about fifty cents per hundredweight to market his fat beeves in Chicago. Consequently it is cheaper for him to sell them at a lower price on the Kansas City market than to ship them to Illinois.

It is necessary to shelter the stock cattle during bad weather, open-end sheds with southern exposure being desirable for this purpose. A portion at least of the feed yard should be paved, in order that much of the manure will not be lost, and so that the hogs, if they are given any extra corn, may be fed on the concrete. Often unpaved yards become so muddy during the height of the feeding season that the animals have to be sold before they are fat. The feeder may lose enough money on a couple of loads of such cattle to pay for paving his whole feed lot.

Dirty, manure-coated cattle are discriminated against on the market, such steers often selling for fifteen to twenty-five cents per hundredweight less than if the animals showed clean coats. Experience has demonstrated that hogs following steers on paved lots make more than one pound more pork per bushel of corn fed to the cattle than do the porkers maintained in muddy yards.

Steers on high-priced lands are an asset in the manure which they produce. A thousand-pound steer, on full feed, will yield between three-fourths of a ton and one ton of manure per month where plenty of bedding is used. This manure is worth at least from $1 to $1.50 per ton as a farm fertilizer. Many farmers estimate that the manure made balances the labor which is devoted to feeding and caring for the cattle. It is preferable for the farmer to maintain these two propositions as separate accounts. In Iowa it was ascertained that, figuring man labor at sixteen cents an hour, the cost of feeding forty-nine herds of cattle, aggregating 2100 steers, for 146 days amounted to nine and one-half mills per head per day. A Kansas feeder who fattens 1000 steers each winter, reports that it costs him one cent per animal daily to handle the cattle. A Nebraska farm, which period of eleven years, spent 1.2 cents per day per animal for labor.

On high-priced land the cattle should fed 50,000 steers ni annual lots over a as far as possible be carried on the rough fields that are not adapted to cultivated crops. A rotation of corn for one or two years, followed by small grain and clover, should be practiced. Usually calves or young steers will make larger daily gains per pound of feed than will mature animals, but the hogs following them do not get so much waste, and the young cattle must be well-bred and of good quality to sell profitably on the market. On the other hand heavy steers may be rougher and show less quality, but they will bring superior market prices when fat and in market bloom. If the farm is very large it will pay the farmer to keep a large area in permanent blue grass in order that summer beef may be produced cheaply on high-priced land. One bushel of corn will produce 6.9 pounds of beef during the summer, when it is fed as a supplement to good pasturage, whereas a bushel of corn makes only 5.6 pounds of beef under winter-feeding conditions.

Winter feeding occupies what would otherwise be comparatively idle time of the farm labor, and in this way it favors the maintenance of permanent labor the year around. It makes for the profitable utilization of by-products such as corn fodder, damaged hay and short corn, which would otherwise be practically unsaleable. However when corn is high in price cheap roughage should be largely

(Continued on page 9)

Economy in production demands an open shed with a southern exposure to shelter cattle under heavy feed. Every unit used for heat is a loss in gain in weight

The silo with its great feeding possibilities, should be supplemented with a concrete feeding floor

OUTLOOK FOR THIS YEAR'S PEACH CROP

The Time to Prove That the Crop of Quality Will Make More Money Than Quantity

By Alvah H. Pulver

THERE is every prospect that the present season will witness one of the largest peach crops the country has ever seen. In practically every peach district, save one, the reports are most encouraging. That one shortage district is the state of Georgia, where in many of the peach sections the indications are of a much shortened crop.

Here and there in the Northern districts unusually late frosts have worked local havoc with the crop, but in these same sections are neighboring orchards where the visit of Jack Frost was hardly noticed. The last freeze came during the last week in May, but on the whole it was more destructive to cherries and grapes. It looks now as though Western New York, Northern Ohio, Michigan, Connecticut, the Hudson River section and the Allegheny Mountains, all of whom ripen their peaches during September, would have the largest tonnage of fruit that has ever been grown in their respective sections.

Thrifty hilltop peaches in western New York. Young orchard in foreground and alfalfa on side hill

The grower of peaches should make every effort to grow fruit of the finest quality and flavor. It is essential to the industry to do this if the greater financial rewards incident to the production of better fruit are to be realized. Peach buyers—that is, peach buyers who buy in quantities—do not spend time looking up desirable fruit in districts where no one has a reputation for fancy pack. The purchasing houses send their buyers to sections that are "onto the job," and as a result, with buyers prevalent from different directions, prices are bound to be better than in those parts where they do not come. It is the same old story of the miller attracted by the lamp in the case of the buyers. They are sent out to obtain good goods, and they will go where they are to be had. One of the greatest assets any fruit district can have is to have it "down on the map" among buyers. They will annually make pilgrimages to any inland point, however obscure in other ways it may be, if it can be relied on to deliver the goods in the particular line they are sent out to get.

In years like the present nearly all the trees will be overloaded, and thinning will be necessary if the best crop is to be realized in peaches of good size. The general rule of thinning is that they should be thinned to about four or five inches apart, and the work must be done before the pits become hard in order to help the size of the fruit that is left. It has been proved beyond all doubt that the growing of the pits of these peaches is what exhausts the soil and strains the tree, as the pits are high in potash and phosphoric acid, while the flesh of the fruit is nearly all water. If one can grow peaches of good size, and not allow the trees to mature any more pits than are actually necessary, he is conserving the vitality of the tree and the available ingredients of the soil necessary as plant food. In other words it is a much greater strain on the tree to grow a large crop of small peaches than a medium crop of large peaches.

Another object in thinning is not to allow the trees to be so heavily loaded that they will break down; also that they may have vitality enough to form fruit buds for another year, and can ripen up the wood so that they can stand the severe cold during the winter.

If the early part of the season is a dry one the orchards will need to be kept under thorough cultivation in order to conserve the moisture, and to make available certain amounts of potash and phosphoric acid inert in the soil. The orchards should be cultivated twice each week until about the middle of July, when all cultivation should stop and cover crops of some kind be sown.

In districts given largely to peach production the labor item is always an important one. Extra help will be needed for thinning, but as the time comes before the cherry harvest and berry picking in most localities sufficient help will be found at home. It is well to arrange in advance for all supplies, accessories and containers in advance. For this work step-ladders are most essential.

Unless the orders are placed in advance for this commodity a purchase of one dozen might clean out all the stock in town. Baskets are another item that must be obtained some time before they are needed. If you have a basket factory near you do not deceive yourself in thinking you can call up your friend running the plant any morning and phone in your order. Likely as not the firm is reaching out after business, and they may have a rush order, with cash in hand, from some distant point just about the time you think you are ready for your baskets.

If you market your own peaches, of course, you will bestir yourself booking orders before the fruit approaches maturity. It is no time to hunt a market after the peach turns luscious, unless you are looking for a canning factory. A nice lithograph label, showing a peach in col-

The trees are the Wealthy apple, and the soil being well fitted, the Columbia berry was used as a filler crop

ors, and bearing some trade name for the farm, when placed under the netting on top of the basket, has a wonderful stimulus in making sales and in holding customers. Some small operators in New York have standing orders from families totally unknown to them whom they supply direct every bearing year. This business can only be had and held by an honest pack of good deliverable fruit, whose quality makes the product self-selling from year to year.

PROFITABLE AND UNPROFITABLE PRODUCTION OF FRUIT

Only in late years have the roadsides been used in planting sour cherry trees, and wherever adopted the method has been soundly successful. One can go for miles, even in many parts of the country's fruit belts, without seeing an instance of where the roadside has been utilized for fruit-bearing trees. This custom is not in conflict with state laws, and where the strip has been regularly given over to hay production the same practice can be continued when cherry trees are harbored along the road.

A row of trees so planted will in most cases do better than a similar number in a regular plot, as in almost every case they bask in the sunlight more hours to the day than the regular rows more closely cropped. In the fifth year of some trees planted along the roadside one and one-half tons of fruit were harvested, and the next year about two tons. This year the trees will yield a still heavier crop of the sour varieties. Besides the cost of the nursery stock, manure and labor there has been no further outlay.

A further instance of progressive thrift is illustrated in the illustration showing the orchard and berry field in one. The grower has well in mind the idea of the rounded whole before the first planting was made. His soil was of a light texture, well adapted to the Wealthy apple. The soil also fitted the Columbian berry, and the Wealthy, being a dwarf apple, allowed the berry to fit well as a filler crop. Both trees and bushes have flourished splendidly. Ready access to a nearby village for berry harvesters, and good outlet facilities, with the local canning factory, have made the berry proposition a winner from the first crop.

The trees have not been hampered in their development and are now six years old. They commenced to bear at the age of three years, an age when most growers are not looking for any returns from the trees. The fruit matures to an early fall variety, and is one of the newer varieties to most sections. It colors nicely, takes on a good size, and otherwise commends itself. Here was a choice made of an apple that quickly makes a place for itself, and of a berry that is a most hardy and prolific grower, with long life to the bush. It is safe to say that not on this particular area did the former owner ever reap the income that now annually reaches the present owner's pocket.

To draw the contrast, and narrate some experience not in keeping with the above, I need only to instance such a stop made at a farm where some grafting was going on, and I was astonished at the different varieties of

(Continued on Page 15)

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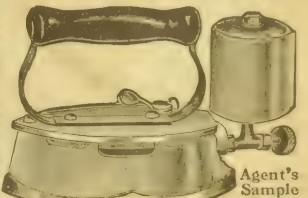

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HORSE NOTES

Colts of the heavy draft breeds are sometimes put to hard work too soon merely because they are large, and have the appearance of strength. But the heavy bones are soft, and the muscles are not closely knit. The three-year-old can do a lot of work without injury, but it must be work that demands no severe straining. It is with even more difficulty that the four-year-old animal is kept in good condition when worked continuously. Light work, which demands no straining, is all that can be done safely by the heavy, loose-jointed horse until it is five years old. If it pays its way after three years of age it does enough, and the profit will come from having a sound draft animal when it reaches full maturity.

Horses accustomed to working side by side should not be given other team mates except when absolutely necessary. They work with more ease when hitched up with each other. Acquaintance and habit affect horses as they do human beings, and, indeed, habit is even stronger with the lower animals, being their chief guide in all their work.

A collar should fit snugly, and when it has been fitted by use to the shoulders of a certain horse it should not be used temporarily on another animal. Such use changes its shape. The hames have much to do in making the fit. When a collar is new soak it in water, if necessary, and draw it up close to the neck with the hames. More collars are worn too wide than too narrow.

The bridles should fit perfectly as well as other parts of the harness. It is wrong to torture a horse with a head stall and bit that cannot be worn with a degree of comfort. If the head and shoulders of a draft animal are kept reasonably comfortable, the work can be done with less strain.

Horses that are watered regularly fatten most readily. In an effort to put flesh upon an animal the water is as big a factor as the grain. Horses can be taught to take water before their morning meal, even in cold weather, and a light drink seems to be worth a great deal to them.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

SHORT PASTURE FOR PIGS

In traveling through the country we have observed that many of the pig pastures are not pastures in fact, but simply small runs. This means that the pigs get a little grass or clover while it is at its best early in the spring, and go without the rest of the season. It also means that before fall the soil will be rooted over and over again unless the pigs are rung frequently. Those farmers who have tried the plan testify to the fact that it pays exceedingly well to give the growing pigs a good big pasture, where they will have more range and all the grass, clover particularly, they will eat and some to spare. It has been found that clover is very much cheaper feed for pigs than grain; that fattening hogs will make the same gains on at least twenty-five per cent less grain where they have access to good clover pasture. If this be true, why not arrange to give the pigs all the clover they will eat in order to increase the margin of profit in pork production?

SALT ANIMALS REGULARLY

While every live-stock farmer knows that salt is necessary for the thrift and health of his animals, yet it often occurs, especially during the busy summer season, that it is supplied in a haphazard or intermittent manner. This makes the animals unnaturally hungry for salt when it is supplied them, with the result that they eat more of it than is good for them, and then there is an interference with their digestion, and, if there is not a constant supply of water in the pasture field, more serious results may follow. Salt, like water, should be made constantly available for

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all classes of stock, young and old, on the farm. There is a difference of opinion among stockmen as to the manner of supplying it, some preferring to keep pieces of rock salt in the pasture fields and feed lots, or in boxes in the stalls when the animals are being stabled, while other farmers prefer to put out a quantity of the small common salt once or twice a week. If the latter method is practiced, the essential thing is that the salting be attended to frequently, so that the animals will not become famished for the condiment. Don't wait until rainy days or other times when the general farm work is at a standstill to supply salt, but keep a quantity of salt on hand and then give it to the animals at stated times, just the same as you water them. Many farmers who use the common salt buy several barrels of it at a time, thereby securing a reduced rate.

BARNYARD IMPROVEMENT

The average dairy farm, although well regulated, having good buildings and using sanitary methods and up-to-date labor-saving appliances, in too many cases have wet and muddy barnyards. Where barnyard liquid and water is allowed to stand several months in the year it makes the yard ill smelling and unsanitary in summer and slippery and unsafe in winter.

Such barnyards are not only an eyesore to the premises, but are very disagreeable to all who have to work around them, and to put them in good condition takes plenty of time and labor. The ground is usually so rich and solid that water cannot soak through. The center of the yards are dished out by manure hauling and the tramping of the cattle, and the ground is higher on the outside than in the middle, consequently the liquid manure and water cannot drain off.

A barnyard located where there is very little, or no natural drainage, may be greatly improved by digging a deep ditch outside of the barnyard fence, digging the ditch to such a depth that the water will run out of the yard into the ditch through drainage ditches under the fence, between each fence post. After rains, or in the spring or fall, the drainage ditches may be opened with a hoe if they should fill up. This will let the water out of the yard, where it might as well stand as inside.

If the barnyard has any reasonable slope, tile drainage is the most desirable. In a very filthy yard the tile should be placed about eight feet apart. Where conditions are not so bad they may be placed farther apart. Many yards would be greatly improved by grading with rock gravel and coarse sand. The mud and slush should be first removed out of the low places to a depth of about eight inches in order to get a good solid bottom. Then cover the bottom with broken rock or coarse stone and fill up with smaller stone or coarse gravel to the desired height.

Get the grade so it slopes away from the buildings. Coarse sand applied to a depth of two inches will make a good top coat for this, making a solid surface which can be easily leveled off. There may be no two barnyards that can be drained alike. Each must be remedied according to its own conditions. Where grading has failed ditches have done wonders and vice versa.—U.

A GOOD THING

When It Comes Along Don't Let It Get Away From You

"I really feel that it is hardly possible to say too much in favor of Grape-Nuts as a health food," writes a Chicago woman.

"For 9 or 10 years I had suffered from indigestion and chronic constipation, caused by the continued use of coffee and rich, heavy foods. My ailments made my life so wretched that I was eager to try anything that held out a promise of help. And that is how I happened to buy a package of Grape-Nuts food last spring.

"That ended my experiments. For in Grape-Nuts I found exactly what I wanted and needed. From the day I began to use it I noticed an improvement and in a very few weeks I found my health was being restored.

"My digestive apparatus now works perfectly and chronic constipation has been entirely relieved. I have gained in weight materially, and life is a very pleasant thing to me so long as I use Grape Nuts once or twice a day. I have found by experiment that if I leave it off for a few days my health suffers.

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Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

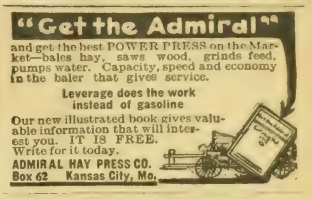
BEEFSTEAK AND HIGH-PRICED LAND

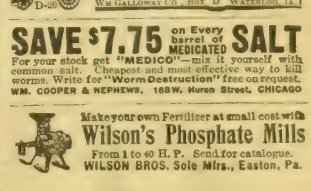
(Continued from Page 5)

used as a meat-maker during the first half of the feeding period. This will mean that the steers will be fed for a longer time than obtains where corn is cheap and more of it can be used in producing market bloom. If rough feed is abundant it is advisable for the farmer to buy rather thin steers, while if rough feed is short it will best profit him to purchase fleshy cattle which may be finished in a short time.

Unless about 100 tons are fed ensilage is far from a cheap cattle feed, considering what it costs and the expense of the silo. When alfalfa and clover hay sell for $10 a ton corn silage at $3 a ton is a costly roughage. Roughing steers on shock corn and straw pays in many localities where the animals are subsequently fattened on grass. Snapping the ears and turning the cattle in on the stalk field early in the winter is also practiced on valuable land. Baby-beef production is advisable where plenty of grass and rough feed are available. High-grade cows and pure-bred bulls are essential for this work, while the calves should be kept constantly growing, and should never be allowed to lose their calf fat.

When a dairymen begins to study each cow in his herd with the idea of keeping only those which will produce economically and abundantly, he is on the right road to success.





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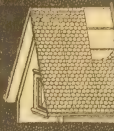

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FITTING DAIRY CATTLE FOR EXHIBITION

The season is not far distant when dairy cattle will be shown at our fairs. To win at these fairs is an advertisement of much value. The animals when exhibited should be in a perfectly healthy and vigorous condition. If not we do not give such a good impression of the business as we ought to.

Inasmuch as the main object of the fair is education, we should never be compelled to see those things which have a tendency to blind us from observing that which is good about the dairy cow. Last fall I saw some dairy cattle at a state fair that certainly did not give valuable testimony to the merits of the breed to which they belonged. I heard several judges remark that the herd did the breed more harm than good. The poor showing was due largely to the presence of dirt, sandburs, manure and long hair. It always pays to leave the poor specimens at home.

People who come to the fair to learn what is good about the dairy cow, should on every hand be able to observe evidences of large milk-production. Dry cows or those that have small udders should not be taken to the fair. The extreme heat and the flies from now on will be a bother to those who wish to exhibit their animals. In order to avoid these troubles as much as possible the animals should be kept in well-bedded, cool, dark and ventilated stalls during the daytime, and allowed to graze and take exercise at night.

In the show ring the judge always looks for a large barrel, as it is an indication of large feeding capacity. If a large amount of roughage is fed it will have a tendency to develop this "bread-basket" portion of the animal. It is well to encourage the cows to eat a lot of good silage and clover or alfalfa hay. We are generally advised not to have our dairy animals too fat when put on exhibition. Nevertheless, other things being equal, a judge will place a well-conditioned animal over one in poor condition. It always takes some meat over the bones to give the animal the appearance of health. Furthermore a thin layer of fat over the body will help the cow or bull to show those oily secretions which are so much desired.

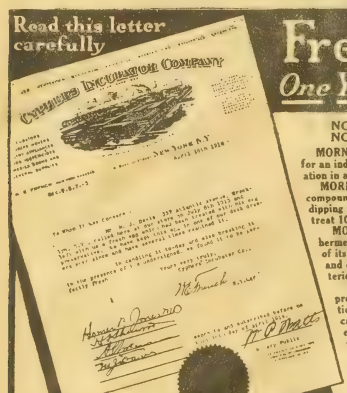
Corn will tend to make the animal fat, as will also silage. Unless the cow or bull is getting too fat at the present time, she or he will not get too much if a liberal quantity of good silage is supplied from now on.

In a dairy cow we always look for quality. It is indicated by a soft pliable skin, silky hair and oily secretions. Feeds, such as oil-meal in quantities of about two pounds per day, will help to make the hide soft and the hair silky. A good temperament cannot be fed into an animal. Nevertheless we can feed so that style and vigor are more noticeable. Oats will give stamina and vigor. Bran makes a good feed.

A ration composed of four parts of ground oats, three parts of old process oil-meal, three parts of corn-meal and four parts of bran, fed at the rate of six to twelve pounds per day, depending upon the condition of the animal, plus green feed or silage and clover, is a good one.

About two weeks before the time to show, the long hairs on the belly should be clipped off. This will allow the milk veins and the milk wells to stand out more prominently. If there are shaggy growths of hair over the head, the shoulders or the tail they should be trimmed off. The horns of the animals should also be trimmed and rasped to the proper size, and then carefully rubbed with powdered emery and sweet oil. After this is done care should be taken that the horns are not scratched.

Read this letter carefully



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The use of MORNING GLORY enables the producer to have fresh eggs for home consumption all the year round, and the surplus eggs can be saved and sold at the price of new-laid eggs when the market is at its highest. Think what this means to you!

After many exhaustive tests, lasting from three months to nearly two years, and subjecting treated eggs to extremely hot and then cold temperatures, the eggs were broken and found to be fresh and sweet. After six months test your preservative is genuine Alfred W. McCann, Pure Food Expert, New York Globe, March 30th, 1915.

MAIL US ONE DOLLAR TODAY

for package of MORNING GLORY which will preserve 2,000 eggs. Or Two Dollars for a package sufficient for 5,000 eggs. Immediate shipment by Parcel Post, prepaid. Full directions for use in each package. MONEY REFUNDED if not entirely satisfactory.

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GRIFFIN LUMBER CO.
Box 65 HUDSON FALLS, N.Y.

GOLDEN GLOW OF BUTTER

What a man puts into his business is the thing that counts. A young farmer of my acquaintance is proving this to be absolutely true in butter-making. This last spring he decided to make a change from letting his milk go to the village creamery, and get a separator and other equipment for making butter at home. He had a lot of choice cows to begin with—a big start, let me say, in an undertaking of this kind.

The separator he bought was the best one he could find, guaranteed to do the work expected of it, when correctly operated. You should have seen him when he was setting up that machine. If life and death had been depending upon it, he could not have taken more pains to make the machine level. And every possible pains was taken to keep it clean and not to mar the discs.

The cream is ripened very carefully, a dairy thermometer being on hand and in constant use, as well as a pair of scales for weighing salt and buter. The churning is done every day—no chances are taken on its not being in a proper condition for this important part of the process. The butter is left in fine granules when the churning is done. I was there the other day when the churning was done, and a more beautiful sight of the kind I never saw than that butter as it lay in the churn. The butter is washed in the purest and coolest water possible, right from the well. Not simply once is this done, but two or three times, until the buttermilk is well washed out. It is then taken out into a bowl and worked and salted, after which it is put away till the next day when it is packed, either in tubs, jars or made into prints, as the trade demands.

The day I was there they were putting some into prints, and just the same care was exercised that every package should be of the proper weight and perfectly stamped with the pretty clover leaf and blossom on the print.

Now, does it pay? We have to test all our work by that standard in the end; and I want to say that one man saw the merits of that butter the moment it was placed before him, and he has taken every pound of it, except a few packages which friends and neighbors have desired. And the top price has been received in every instance. The trade in this fine butter could be greatly increased in case the output called for such an expansion. For everybody who has had any of it pronounces it the best they ever saw or ate.

Now, the moral of this is plain enough, isn't it? This young man might have slipped over his work in a good deal less time than is now required; he might have been slack about keeping the separator clean, with the result that soon the quality of his butter would fall off, and when that happens, away goes custom. He might have hurried the churning through and taken little pains with working, salting and packing, but he didn't, and the consequence is that he is building up an enviable reputation for first-class butter.

It pays to advertise. We have had that impressed upon us so long that we accept it as a fact. But there is something that lies back of the advertising—we must have something worth advertising, or sooner or later we will come to the end of our rope, and find that advertising is not the thing that counts half as much as putting on the market a thing that the people really want.

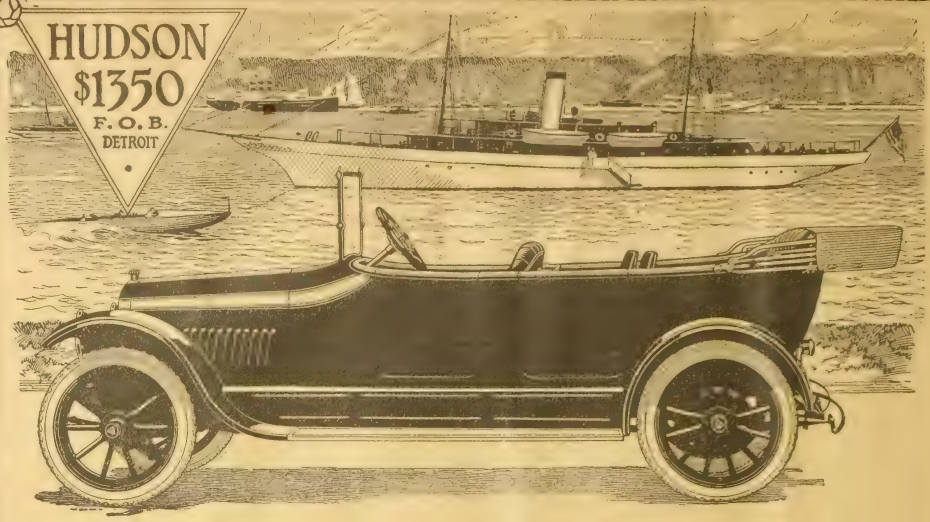
If this point could be impressed on the mind of every farmer in this country it would be worth millions of dollars to them. To win out in any department of farm work, we must be willing to put the very best there is in us into every little detail of the work. That is the way to command confidence, and after all it is merit that wins. The man the people have confidence in is the man who is on the high road to success.

WHAT IS GALVANIZED STEEL?

Galvanizing of wire and flat steel consists in the protection of either by a coating of zinc. This is done by passing the wire or flat steel, when properly cleaned, through a bath of molten zinc or spelter. They are never passed through the zinc bath more than once, because to pass them through the second time would melt off the first coat of zinc put on. The terms "double galvanized" and "triple galvanized" are somewhat misleading.

It is not alone the quantity of spelter that gives an assurance of length of life, but it is also the manner in which the spelter is applied that determines its value. A uniform coating of zinc applied so as to avoid bare and thin spots is far more desirable than a heavy uneven coating with portions of the surface poorly protected.

The zinc galvanizing coat protects the surface from rust not only because it acts as a covering but more especially because there is an electrical relationship between the zinc and steel that causes the zinc to exercise a preserving influence. Zinc is practically the only suitable metal which is electro-positive to steel. When zinc and steel are put together, zinc becomes the electro-positive and steel becomes the electro-negative body.



"The Road Cruiser"

Ready—the 1916 Hudson

This deals with the new-type Hudson, which has become in two seasons the most popular quality car in the world.

It announces the 1916 model, with some vast advances, on a car which seemed beyond improvement.

New Price, $1350

First comes a new price. We have made another $200 reduction, due to a trebled output. That means a reduction of $400—of 23 per cent—since this car was introduced.

It is only 20 months since this new-type Hudson came out at $1750. That price was the season's sensation. No quality Six before this had sold under $2250. And engineers said our price was impossible on a car of Hudson standards.

The amazing demand compelled us to double our output, and that brought the price on the next season's model down to $1550.

Now we are building 100 per day. This season's output will be 20,000—the largest output ever known in the high-class field. That record output makes possible now a price of $1350.

Extra Quality

Note that this car, from the very start, was a car of extra quality. It had to be to weigh under 3000 pounds. That is one-third less than the old-time Six. And that weight reduction meant better designing, better materials, greater refinement. Special steels were necessary. Aluminum took the place of cast iron.

So this new-type Hudson, which now sells for $1350, really created a new standard of quality. It is a finer car than was ever built before it. And now it has come to typify the modern idea of class.

Note also that some fifty improvements have been added to the car in the past 20 months —since it sold at $1750. And the greatest of them come out now, in this $1350 model.

Four Hudson Innovations

Yacht-Line Body Roomier Tonneau

This new body—called the Yacht-Line—makes this new Hudson the handsomest car that's built. It is the outcome of a seven-year evolution. From straight lines we came to streamlines. Now we come to lines so graceful and sweeping that this new car is called "The Road Cruiser."

The lines are unbroken, even at the doors. The tops of the doors are leather-bound. Also the top-line of the body.

The new tonneau is extra wide and roomy. Three big people do not crowd the rear seat. Seven people find ample room in the car. And the two extra seats disappear when not wanted, doubling the tonneau room.

The new upholstery is enameled leather over deep curled hair—a luxury which heretofore has been confined to higher-priced cars.

Finish That Stays New

And this year, at heavy cost, we bring out the Lustrous finish. It is exclusive to the Hudson. We have built in our factory enormous ovens, with room for hundreds of bodies. Now each coat of finish is baked on, to give a finish brilliant and enduring.

This Lustrous finish resists weather, washing, rubbing, mud. It keeps its newness. Experienced motorists, who know how soon painted cars grow shabby, will welcome this lasting finish.

New Ideas of Class

This new-type Hudson has come to typify the modern ideas of class. Excess, over-tax and crudeness have been ended in it. Lightness has cut tire bills and fuel cost in two.

Lustrous Finish $200 Reduction

In 20 months, 15,000 motorists have adopted it. Nearly all of them owned other cars before it. Many of them used to pay two and three times this price. All of them have found their ideal in this car.

You are pretty sure to choose the Hudson when you buy a high-class car. No other quality car offers anywhere near such value. None can hope to do it, because of our larger output.

This the only car of this popular type designed by Howard E. Coffin. It is the only one which has been refined by four years of ceaseless effort. It is the only one with Yacht-Line body and Lustrous finish.

But the demand exceeds the supply. Last summer, thousands of buyers waited weeks for their car. This summer, at this lower price, the demand will be much larger.

Whether you want a car now or later, we urge you to see this new model now. Decide about it—arrange your date of delivery. Do this to save delays.

7-Passenger Phaeton or 3-Passenger Roadster, $1350, f. o. b. Detroit. Also a new Cabriolet, $1650, f. o. b., Detroit

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Fort Wayne—Schiefer Automobile Co.
Frankfort—Frankfort Auto Co.
Gary—O. W. Dalrymple.
Indianapolis—Hulett-Law Motor Car Co.
Logansport—W. A. Routh.
La Porte—Henry Bros.
Marion—Ed. Marquis.
Muncie—Muncie Automobile Co.
South Bend—Milon G. Smith.
Vincennes—The A. L. Maxwell Co.
Warsaw—Allen S. Widaman

OHIO DEALERS

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Canal Dover—The S. Toomey Co.
Canton—Standard Motor Car Co.
Celina—The Riley & Nickel Hdwe. Co.
Circleville—J. A. Voss.
Chillicothe—Hickley-Putnam Auto Sales Co.
Cincinnati—Wendel Eich, 7005 Carthage Ave.
Cincinnati—The Welbon Motor Car Co., 632-34 Walnut St.
Cleveland—Hudson-Stuyvesant Motor Co.
Columbus—Standard Motor Car Co., 25 N. Fourth St.
Crestline—Kroegel & Parsel Bros.
Dayton—The Standard Motor Car Co., W. Third and Perry Sts.
Defiance—C. J. Markey.
Delaware—W. F. Walker and F. C. Higley
East Liverpool—Buckeye Motor Co.
Fremont—Hilt & Keating.
Geneva—Warden Bros. Hdwe. Co.
Greenfield—Winstead Motor Car Co.
Hamilton—Edward Weiser.
Hillsboro—R. D. Currie.
Lancaster—Star Motor Car Co.
Leetonia—Robert C. Harrold.
Lima—Baxter Bros.
Logan—The Gage Auto Co.
Marietta—Walter W. Wood.
Marion—The Auto Inn.
Marysville—The Marysville Motor Car Co.
Newark—A. P. Hess.
New Paris—H. W. Chenoweth.
Pomeroy—Wm. F. Dorst.
Portsmouth—Portsmouth Auto & Machine Co.
Ravenna—Portage Garage.
Sandusky—Herman Auto Co.
Springfield—The H. & S. Auto Co.
Steubenville—Hunter & Son.
Toledo—Gamble Motor Car Co., 1211 Madison Ave.
Troy—Troy Auto Inn.
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West Unity—C. H. Hollington.
Wilmington—The Motor Inn.
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Cheap Gasoline vs. Costly Corn

Another View of the Automobile-Horse Question, Leaving the Horse With Four Good Legs

By H. A. Bereman

EVERY farmer ought to go to the city once in a while, just to know how good it feels to get back to the country. There are otherattractions, but this one is enough to pay railroad fare for quite some distance.

That isn't why I went to Chicago recently, although I always heave a big sigh of relief when I get out to the open again after a dose of the city's wonderful spirit of enterprise—to say nothing of its noise, dirt and ugliness.

I saw some curious sights, of course, as one may always see if he keeps his weather eye peeled. One was a heavily loaded truck pulled by a four-horse team of big, black Percherons.

What's the joke? Why, the joke's on you gentle reader, if you don't know that horse-shoes are down and rubber tires are going up. I can remember when spanking teams of 2,000-pound horses pulled trucks and drays over the city's streets a-plenty. There are a few horses left in Chicago, too, for that matter; but the big heavy-steppers are conspicuous by their scarcity.

Of course you know why. Every day new auto trucks appear, and the breed grows bigger and better year by year, Immense loads of coal whisk by at a lively pace, hiked along by a dinky little gas engine down somewhere out of sight. Immense vans, hauling freight to and fro, travel along at eight to ten miles per hour. The auto truck is rapidly becoming the common, as it is destined to be the universal, means of transportation of all kinds of freight in and around our great centers of population—and out in the rural districts as well.

One of the oddities of this expansion is that only in the last year has the Standard Oil Co. used auto trucks for the hauling of their own products. They have heretofore used horses for their oil and gasoline wagons, but now the chug-chug oil wagon is the thing. One wonders just why it was so long coming, and why it was finally adopted.

Another thing I notice in the city is the use of heavy electric trucks run by storage batteries. They run along at a lady-like pace, making very little noise, and are well behaved if not taken too far from the "juice." No one who lives in the thickly settled sections of our country needs to be told that motor trucks for general farm use are increasing in numbers. They've got 'em down pretty fine now, too, and with gasoline at thirteen cents a gallon, and corn at eighty cents a bushel, it is only a question of good roads and having the price for the iron steed.

The great advantage of the motor truck for farm use, aside from the little item of expense, is the same as that of the automobile over the old-fashioned horse and buggy—increased speed and the saving of time. As the poet says, "We've got all the time there is," but my! how we do like to annihilate distance.

There are fifty-seven varieties of reasons for buying an automobile that will haul dairy products, vegetables, fruit and other farm merchandise quickly and cheaply. And say! When they make 'em so we can twist a set-screw and turn the outfit into a family carryall on Sunday, or in the soft summer evenings, when the folks want to take a little outing—that will start the biggest boom in good roads that ever came down the pike. On this point there is no longer the shadow of an argument left—it is purely a matter of saving the cash and picking the best car on the list.

In the meantime what is to become of Old Dobbin? This question has been asked and answered many times in the past ten years, and not always in the same way. It was easy in the early days of the auto's ascendency to predict that the horse would become extinct along with the megatheriumpticus and the buffalo. I once saw in the National Museum of Natural History in New York the skeleton of a horse, with five toes, which was about as big as a fox terrier. Little Eohippus is no more. Will the modern horse follow suit? Not so long as we are confronted with the astounding fact that horses are worth more today than before the auto was born.

Of course that isn't saying that they might not be worth still more if autos never had been invented at all. It is certain that in such an event it would take at least 375,000 horses to do the work now turned over to motor trucks, for there are at present over 100,000 such vehicles in this country.

Evidently supply and demand keep a fairly even pace with each other, no matter what new factors are injected into the field of industry. It is not to be expected that large numbers of horses are going to be bred, fed and matured and then sacrificed because nobody wants horses. There will be plenty of people in cities and on farms, especially on small farms, who will need horses for several years to come. Any farmer who becomes the owner of a handsome, well-bred colt these fine warm days, need not fear that in four years it will grow into a has-been. If the demand for draft horses slackens faster in the future than in the past, the number of horses produced will automaticaly adjust itself.

No prediction is safe until after the thing has happened, but I venture this: Well-bred draft animals will be worth as much in ten years as they are today, but the plugs will still be a poor investment of any man's money.

WHEAT CULTURISMS

A great part of the United States has been tilled less than 50 years, and the

average yield of wheat is less than 15 bushels per acre. Fifteen-bushel wheat does not buy automobiles. You want bigger crops, at a profit.

Remember that wheat is a fairly deep-feeding plant, so the first thing to do in getting ready for the crop is to prepare your seed-bed fairly deep.

Another thing to remember is that it takes several barrels of water to produce a single bushel of wheat. This, the moisture supply for wheat is most important. Prepare the wheat seed-bed so as to retain the maximum amount of soil moisture. If plowed, harrow well and often. If wheat is to go in on corn ground, cultivate the corn more frequently than otherwise.

Always grow the variety of wheat that is found best adapted to your community. If you decide to experiment with a new variety, do not grow much of it the first year.

The quality of seed wheat is mighty important. Always run it through a fanning mill. Be certain to plant large, plump sound berries. Do not plant small, shriveled or broken seed.

The growing of a 30-bushel wheat crop uses up an enormous amount of plant food. Neither stock nor steer nor wheat field can produce maximum profits for you unless they are well-fed. Feeding the wheat crop is mighty important.

The rate of seeding often determines whether the crop will be a bumper one or a poor one. After you have determined on the proper rate for your field, make certain that the grain drill plants that amount.

In drilling make certain that the seed is not buried to such a depth that the plant-food store of the tiny kernel will be exhausted before the plant reaches the surface. When buried too deeply it will die of starvation and suffocation. The supply of available plant food in the soil should be sufficient to last throughout the entire life of the wheat plant.

To insure best crops, the wheat should cover the ground before winter sets in. This means that the wheat plant must have a great deal of help in order to obtain this large amount of growth.

The use of fertilizer containing ammonia, phosphoric acid and potash will enable the wheat plant to obtain a quick start, and at the same time furnish plant food in sufficient quantity to hasten its maturity the following spring, as well as to increase yield and improve quality.

Experiments show that the use of a fertilizer containing all three elements of plant food increase the weight of the measure bushel of wheat.

Experiments in ten different representative counties in Indiana have shown that the average gain to be obtained from fertilization of wheat was 11.6 bushels per acre. The average cost of this gain was $4.14 per acre. The use of fertilizer will add many dollars to the profits resulting from the crop.

The Indiana Circular, No. 13, states "One of the particular causes of failure to secure satisfactory yields of wheat in Indiana at the present time is lack of proper attention to the matter of feeding or fertilizing the crop. There is no doubt that our farmers will have to pay more attention to this point if they wish to grow wheat at a profit. It is just as necessary to have an adequate supply of food available for the crop of wheat as it is to have plenty of food at hand in order to grow a drove of hogs."

The value of fertilizer on wheat does not end with wheat cropping. It insures a good catch of grass, and shows a marked effect throughout a three or four year rotation.

Many farmers have found the use of fertilizers of great benefit in helping them to escape the attacks of the Hessian fly. Late sown wheat usually escapes this pest, but without plenty of plant food, to give the crop a quick start, it is unable to cover the ground before winter. The use of fertilizer on this late-sown crop will give it a sufficient start to cover the field before winter sets in, and thus insure a good crop in spite of the fly.

The independence of the average farmer is proverbial. That is one of the things which makes a successful co-operative venture almost hopeless at the start. In the season when we need it we are too busy, and in the dull season we don't need it.

SHE QUIT

But It Was a Hard Pull

It is hard to believe that coffee will put a person in such a condition as it did an Ohio woman. She tells her own story:

"I did not believe coffee caused my trouble, and frequently said I liked it so well I would not, and could not, quit drinking it, but I was a miserable sufferer from heart trouble and nervous prostration for four years.

"I was scarcely able to be around, had no energy and did not care for anything. Was emaciated and had a constant pain around my heart until I thought I could not endure it.

"Frequently I had nervous chills and the least excitement would drive sleep away, and any little noise would upset me terribly. I was gradually getting worse until finally I asked myself what's the use of being sick all the time and buying medicine so that I could indulge myself in coffee?

"So I got some Postum to help me quit. I made it strictly according to directions and I want to tell you that change was the greatest step in my life. It was easy to quit coffee because I now like Postum better than the coffee.

"One by one of the old troubles left until now I am in splendid health, nerves steady, heart all right and the pain all gone. Never have any more nervous chills, don't take any medicine, can do all my housework and have done a great deal besides."

Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs.

Postum comes in two forms:

Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage **instantly.** 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a reason" for Postum.

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WORLD MFG. CO. 4268 World Bldg. CINCINNATI, O.

HOG CHOLERA AND OTHER DISEASES

Adoption of Sanitary Appliances and Methods Will Reduce Losses to a Minimum

By George B. Crane

SHREWD observers, who have given attention to the reports of a large number of farmers on the hog-cholera situation, have noted this one big fact: no matter from what section of the great hog raising district reports have come, there is always a few men in each section who relate that they have never been troubled with the disease, although many of their neighbors have suffered great losses from cholera.

We wonder if it isn't a fact that the men whose hogs have not been bothered with cholera, have persistently provided and maintained the most sanitary quarters for their swine to live in? This important relation between cleanly conditions for keeping hogs and the absence of cholera cannot be set down as a fixed rule that will always hold as yet, but it seems reasonable for the farmer who dreads the inroads of cholera to adopt as the basis of his preventive measures—the cleanest quarters possible in which to house his hogs, together with sufficient foraging ground, planted abundantly with the right kind of forage crops to keep them content and away from mud and filth, and plenty of clean, pure water.

Providing clean troughs, away from mud and filth, is part of the best program to maintain sanitary conditions

Sanitation is strictly a preventive measure. Such measures are the cheapest and surest. In its best sense sanitation does not mean to spray hog-pens long after the trouble has made itself known, but to keep the yard and pens in such condition as to make them, under ordinary chances of infection, least liable to harbor disease. Hogs are content not to wallow in the mud-holes and root in the ground if they are provided with a suitable place to forage, where they can get enough green stuff to eat, and at the same time keep reasonably cool in hot weather.

The matter of providing good forage crops for swine is being recognized by more and more of our best farmers. For instance, they figure that they can take a few acres of ground and wisely plant it to a rotation of forage crops, such as rye, crimson clover, rape, Canadian field peas and oats, and soy-beans. This will not only supply a large amount of the needed green feed, but will provide the very best place possible for healthy exercise, away from the heat of penned-up mudholes and dry boards. The above crops, starting with the seeding of the clover or rye after the last cultivation of the corn in the fall (or after it is cut for the silo), to the rotation of rape, field peas and oats, followed by soy-beans during the spring and summer, make ample forage to last from early spring to late fall.

A comparison showing distinctly the difference between lard and bacon type of hogs. Lard type on right, bacon type on left

Somewhat related to the problem of keeping swine in good health is the widespread distribution of hog lice. So persistent are these little insects in pestering hogs, that it seems that they have the proverbial cat beat when it comes to having nine lives. The fact that they are so hard to get rid of accounts for their widespread distribution. It is here again that the advantage of having the premises where the hogs are kept clean comes in.

Lice, like most other injurious insects, find harbors for refuge in rubbish piles, old straw, etc. Most effective among the remedies for hog lice are crude oil, kerosene and lard and the best grades of tar dips and rubbing posts. When found to be infested, these remedies should be applied not only once, but every five or six days for a month. This will have a tendency to entirely eradicate the pests, provided the hogs are kept in quarters where the insects will not find refuge in rubbish or anything of that kind.

One point in favor of the use of crude oil and kerosene emulsion is the fact that these will be effective in destroying the eggs of the insect. Together with the application of this remedy should come the thorough cleaning of premises and the disinfection of the quarters with kerosene emulsion. Often, too, it is a good plan to white-wash pens, especially places where animals are in the habit of rubbing.

Taken from any viewpoint the problem of fighting hog cholera is a stupendous one. However, this should not discourage farmers from remaining in the hog business, as rigid care and watchfulness as to sanitary conditions will keep the losses at a minimum. The bacterium causing hog cholera is yet unknown, but nevertheless this disease is having a harder row every year. Men are better prepared. They are taking measures to prevent it. Farmers are learning how to combat it. Those who have been most successful have adopted sanitary and preventive measures. Some day persistence in the fight by farmers and scientists will bring forth a more simple and cheaper remedy. It is not unreasonable to suppose that efforts along the right line will produce breeds of hogs more or less resistant to the attacks of cholera. In the meantime, the battle must go on, ever vigilant, with Captains Sanitation, Cleanliness, Serum and Forage Crops to the front.

SAVE HAIRY VETCH SEED

Farmers who are growing hairy vetch this year are cautioned by the Agricultural Department to save their seed if they expect to continue growing this valuable crop. The greater part of the seed has been imported from Russia and Germany, and, owing to war conditions, the supply will be necessarily limited, and bring a very high price, as it has in the past. This will be another opportunity for the American farmer to demonstrate his independence of foreign conditions as affecting his business.

COW TESTING ASSOCIATIONS

Cow-testing associations are rapidly taking their places in the economic development of dairy communities, and they are proving their worth. The weeding-out process, as applied to the dairy, is most important. The benefit of the most modern methods and apliances may be had by consulting your state agricultural authorities.

A type of practical and inexpensive self feeder

UNCHARTED ROCKS IN POULTRY KEEPING

E. L. Vincent

If somebody had told me a few things when I came on the farm and began to keep poultry it would have been worth a great deal to me. Some of these I want to set down here, for the benefit of young men who are just getting into the poultry harness, or who are thinking of making this venture.

For one thing, there is little chance for success with poor hens. It pays to get the best we possibly can right at the start. After a man once makes his start it is not easy to make important changes. Something about human nature makes men like to run along in certain channels. Get a particular line of good poultry, then breed and select and weed out until those best are really top-notch hens.

Again, it is a mistake to think that hens will ever do their best with indifferent care. They must have the very best of care, not now and then a day, but every day, and all the time. This makes me think of what a young farmer said to me the other day on this very point.

"If you forget or neglect to water your hens one day, or once a day let them get out of water for any particular length of time, your egg yield will show it the next day, and for two or three days afterward. You have got to keep them in water." Isn't that worth remembering? I call it so.

Still another rock on which men sink their poultry ships is putting too many hens in a house at a time. To do their best hens must have room to turn round, to work and be comfortable. The hen that is cramped, or has to scurry for her life, is not going to do as well as she would if she had plenty of space. No hen of any breed, age, color, or condition should have less than four square feet of floor space, and some of the more active kinds ought to have a good deal more than that. Size, too, should be consulted in determining this point. I am sure that there are men keeping poultry in this country that would get more eggs at a great deal less cost if they would either get rid of some of their stock or build more houses.

I spoke of comfort just now. I want to add that it is the comfortable hen that is making the money for her owner today. I do not claim to know much about the mechanism of a hen's body. I doubt if anybody can tell why it is that when a hen is nervous and uncomfortable she is directly affected in her egg-making apparatus. It is enough for us to know that it is so, and that we have to do our level best to keep her normally comfortable all the time.

There are a few things aside from feed that tend to do this. Lice, or any other kind of insect pests, are comfort-killers. So are men or women who jump and run and otherwise frighten their birds. Women as a rule are not offenders in this way. They move about more quietly, and it pays. Then, comfort may be brought around by keeping the houses clean. The hen is naturally a neat bird. She abhors filth. Still again, comfort consists in being fed about such a time every day. Habit? Show me a single living creature that is not in some way or another the victime of habit. We are all about the same in that line.

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NO MONEY NEEDED

We will send this Beautiful Upholstered Rocker and 20 boxes of our 7-bar Toilet Soap and 25 Packages of our Pearl Washing Powder and 50 bars of Laundry Soap to any responsible person without requiring one cent of money in advance. When shipment reaches you, you sell the Soap at 50c a box, Washing Powder at 10c a box and Laundry Soap at 5c a bar—send the money to us within 30 days, and keep the Rocker as your reward.

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(353)

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giving us two satisfactory references, such as your Banker, Pastor, Postmaster, or business men of your town who know you well, and receive the fine Rocker without cost. Remember, you take no risk, WE AGREE TO TAKE ENTIRE SHIPMENT BACK AT OUR EXPENSE if you are not pleased.

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Notice the wide, comfortable seat and broad, thickly upholstered rounding back of this beautiful Rocker. It is well made in every respect; the spring seat measures 21 inches wide and 20 inches deep; back is 27 inches high above seat; very prettily tufted and carved; arm-rests are 6 inches wide; 8 square spindles under each arm ¾ of an inch square; furnished in Golden Oak, beautifully grained and finished; upholstered in good grade of imitation black leather.

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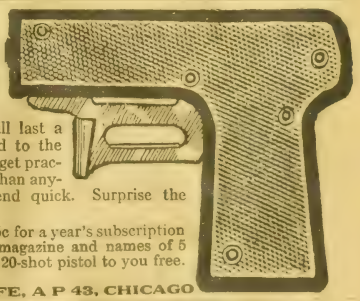

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For Your Information

Interesting Facts Gathered for Farm News Readers

AMERICA'S FUTURE IN RUSSIA

"The field for American business development in Russia is unlimited," says W. V. Logan, of the Goodyear Tire & Rubber Company, who has just returned from the Czar's domains. "All evidence is that Russia is having a great awakening, and there is no end to the possibilities there for American business institutions,—whose representatives study Russian conditions and prepare for business realizing that Russia is not the United States, and that American business methods must be modified and adapted when applied there.

"Germans have had much of Russia's commerce. No matter what the outcome it will be long—if ever—before the war feeling subsides. And that makes America's opportunity. Few people in this country appreciate Russia's vastness, its lack of development in industries of its own, and its possibilities.

"Take the automobile industry; when the war started there were only 12,500 motor vehicles in Russia,—trucks, pleasure cars, large and small. The Government purchased between $15,000,000 and $20,000,000 worth while I was there. After the war American automobile products will be very well known. The introduction is now being made. It is up to American manufacturers to follow the introduction if they care for the enormous business that can be theirs.

"Moscow, the ancient capital, is Russia's business center. Petrograd is the governmental headquarters," says Logan. "Judging by those I encountered, the Russians are the most hospitable and courteous people. The official language seems to be French, and some English.

"All industries are now centering on government work. One hears nothing but war talk. Russia has 8,000,000 men in training or action and everywhere there seems serene confidence that nothing but victory is ahead.

"In Russia it seems that people either have plenty of money or none at all. Those who have are great spenders. Food supplies are apparently plentiful,—but city prices—hotel prices—are away up. I saw strawberries at 35 cents apiece; apples at 75 cents. Hotel fare is affected now by the fact that most of the better cooks and chefs are with the army."

PROFITABLE AND UNPROFITABLE PRODUCTION OF FRUIT

(Continued from Page 7)

pears that were being started. At first it did not appear that there could be so many varieties as that here being given life. As an experiment some value may result from the work; some things may be learned that could not be known without the actual contact work, or some new developments may result.

But to even the casual observer here was going on a job that would produce some very definite results. From this work there would come a smattering of many varieties of pears; a job lot of this and that kind—surely not a very tempting proposition to the buyer who is quoting straight on Bartletts, Sheldons or Seckles. Mixture of fruit for purposes of cross fertilization has its good points, but to dabble with every new variety presented is stretching over too much ground, and a case of using too many baskets for our eggs.

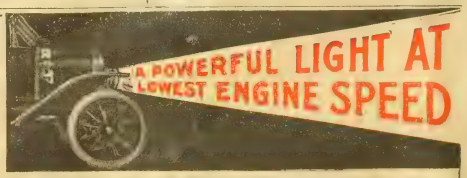
Another grafting scene showed more work with pears. Here the Flemish Beauty variety was being grafted into Bartletts. When questioned for his reason the owner was straightforward and quick:

"The Bartletts are climbers, while the Flemish Beauties don't go that way. It makes a stockier, steadier tree and rears Bartlett pears closer to the earth."

He knew what he wanted and he was doing it with a will. When harvest time comes for those trees he will have "Bartletts for his," and Bartletts all through, not a miscellany, maturing all along the season.

And so in a thousand ways does the distinction lie between profitable and unprofitable production of fruit, of thrift and laxity of purpose. Haphazard methods lose in orcharding, as they do in most business pursuits. The majority of fruit problems are susceptible of cool calculation and determination in advance. Planning becomes an intuitive operation to the determined grower. And even to him the pests will make it sufficiently interesting to give extra zest in the enjoyment of that high powered car which always comes when a bumper crop is sold.

$5.00 for the New York



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7285—Children's French Dress—The skirt is gathered and can be made with or without the ruffles. Round or square neck and long or short sleeves may be used. Cut in sizes 2, 4, 6 and 8 years. Price, 10 cents.

7297—Misses' Dress—The dress can be made with either the long or short sleeves. The two gore skirt is joined to a yoke and can be made with or without the bias fold. Cut in sizes 14, 16, 18 and 20 years. Price, 10 cents.

7279—Ladies' Dress—The flounced skirt is joined to a body lining. The waist is in bolero effect and can be made with either the long or short sleeves. Cut in sizes 34 and 44 inches bust measure. Price, 10 cents.

7277—Children's Dress—Linen gingham or pique can be used to make this dress with the trimming of plain material. The sleeves may be long or short and the skirt has three gores. Cut in sizes 2, 4, 6 and 8 years. Price, 10 cents.

7295—Ladies' Shirt-Waist—The waist can be made with or without the smocking and scallops at the front and the long or short sleeves may be used. Cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

7299—Ladies' Dress—Any of the pretty figured materials can be used to make the skirt and overblouse of this dress with the blouse of plain material. The suspender overblouse is joined to the yoke skirt. Cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

6981—Boys' Russian Dress—It is just the thing for the small boy who has not yet worn knickerbockers. The dress has long sleeves and closes at the right side of the front. Cut in sizes 1 and 2 years. Price, 10 cents.

7296—Ladies' Skirt—This plain up-to-date skirt is suitable for linen or serge. The skirt is cut in three gores and closes at the left side of the front. The high or regulation waistline may be used. Cut in sizes 22 to 36 inches waist measure. Price, 10 cents.

7290—Children's Dress—The dress closes at the back and has a plaited skirt and long or short sleeves. Cut in sizes 2, 4, 6 and 8 years. Price, 10 cents.

7291—Ladies' Kimono—It has an Empire waistline, small collar and short sleeves. Body and sleeves are cut in one piece. Cut in sizes 34 to 44 inches bust measure. Price, 10 cents.

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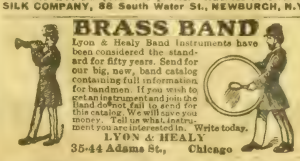

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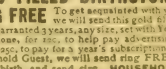

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Each of the squares above **represents a letter.** When the letters are all formed they make **three words.** In order to mystify and puzzle you we have used **figures instead of letters** in spelling these words. There are 26 letters in the alphabet. Letter **A** is **1**, **B** is **2**, **C** is **3**, etc. Now see if you can make out the words. When you have found all the letters you will have the three words and they will tell you what you want most, just now, and what we want to give you. Sit down now and work this puzzle out. **It will pay you. YOU CAN WIN** if you try. Don't give up until you have succeeded. When you have made out the words write them **on a slip of paper** and send to the **NEW IDEAS Pony Man** with **a 2c stamp** to pay postage and we will send you **a special PRIZE** coupon worth 25c and **2000 FREE PONY VOTES. DANDY** is only 44 inches tall. You can ride him. You can drive him. **He** will take you as fast as you want to go and anywhere you want to go. **He** is gentle and kind and will love you, and make the very best play fellow you ever had. Don't fail to send your answer **at once** and get your **SPECIAL PRIZE** worth **25c** and the **2000 FREE VOTES** and full particulars how you may get **Dandy Free.** Don't forget to send the **2c** stamp to pay postage on the **25c Prize** Coupon. **ACT QUICK.** Ask your parents if you may have Dandy if you win him. Then send your words at once and promise me you will give Dandy a **GOOD HOME** if you get him. Address:

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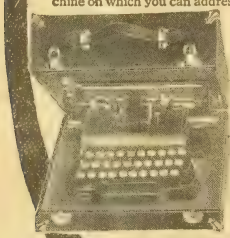

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Besides this new idea in setting low prices, Mr. Witte has also adopted a new idea in engine rating—that of putting into his engines from 30% to 50% surplus H.-P. over the rating of the various sizes, instead of the usual 15% to 20% surplus, hitherto considered as standard practice by most engine manufacturers. Speaking of this, Mr. Witte said:

"My experience is that most folks, in buying their first engines, buy them too small, especially when buying the smaller sizes. The size ordered is figured usually, for a certain work, but after the engine is in use there are always other jobs given to the engine, and when more work is found for the engine than its size is capable of doing the buyer regrets not having bought a larger size. At the same time, he does not wish to buy a second engine.

"To meet this situation I am now making my engines larger, while keeping the ratings the same as before; and, at the same time, have even lowered the prices. When pulling their full margin of overload, the fuel consumption is no more than that of other engines of the same rating, when pulling only their rated H.-P. The saving in price and in fuel, in addition to the extra power in each size WITTE, are the most important improvements in the field of general purpose, liquid fuel engines, and are meeting with hearty approval everywhere, among my old customers as well as the thousands of new ones we are making right along.

"I shall be glad to send full particulars of my improved engines, together

with my latest prices, for cash or on reasonable terms, to all intending buyers; and will undertake to prove to every one that no gasoline or kerosene engine for general farm work should cost any more than my latest prices. Inquiries will reach me, addressed simply to Witte Engine Works, 2020 Oakland Ave., Kansas City, Mo., or to Office 202, Pittsburgh, Pa., where we are opening a branch for the convenience of our many Eastern customers."—Adv.

RECEIVED AT THE EDITOR'S DESK

"The Opportunity of the Town Lies in the Country," a handsome booklet from the press of the International Harvester Co., giving detailed information as to the operation of the I. H. C. plan of agricultural extension. You will be welcome to this book by dropping the International Harvester Co., Chicago, Ill., a postcard.

Four handsome books from the Louden Machinery Co., Fairfield, Iowa, as follows: "Louden Barn Plans," "Louden Dairy Barn Equipment," "Louden Hay Unloading Tools and Barn Door Hangers," and "Louden Carriers."

Illustrated catalog and price list of the Electric Wheel Co., Quincy, Ill., showing steel wheels, farm trucks, log wagons, gasoline engine trucks and special mountings. Write a postcard for it.

"Catalogue No. 78," Admiral Hay Press Co., Kansas City, Mo. Profusely illustrated catalog of Admiral Hay Presses. Get it by writing a postcard.

No farmer can afford to miss the opportunity to get Armour & Company's booklet, "More Money From Wheat." It contains many valuable suggestions about the use of fertilizer. Write to Armour & Co., Chicago, Ill.

Four Free Farm Books about the use of Cypress Lumber and Shingles, with a lot of other valuable information for the farmer. The books contain barn, hog-house, corn-crib, chicken-house, silo and conservatory plans. Any or all of these books may be had by our readers by writing to Southern Cypress Mfrs. Ass'n, New Orleans, La.

These books are worthless unless they reach the people for whom they are intended, and we know that there are great numbers of Farm News readers whose ambitions reach toward better farming and farming conditions. For this reason we sincerely recommend that you write for these books, as we know that they contain useful information of practical benefit. Always mention Farm News when writing for books or other advertised products.

The devastations of field mice and pine mice reach an alarming figure each year. In fact the Big Business of Farming is the only business in the country, or world for that matter, that could stand this loss and not be bankrupt. Among the farmer's friends in the destruction of these pests are the short-eared and the barn owl, as mice are their chief diet. The common screech owl also destroys many of the mice, as well as English sparrows. It stays close to orchards and farm buildings, and is a useful assistant.

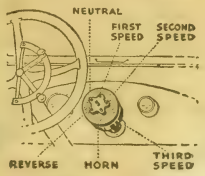
Entries in the "Yap" class are now confined to residents of New York and Chicago.

THE NEW SERIES LEWIS "VI"
The Car with 1200 Fewer Parts

Here is the ideal "Six" for town and country service. It is a six-cylinder, six-passenger car with a 135-inch wheel base. Into it Capt. William Mitchell Lewis has built all the experience-bought knowledge of 12 years of automobile building. The price of the

LEWIS "VI"
Monarch of the Sixes

the car with 1200 fewer parts—1200 fewer chances for "trouble"—is $1600. Note a few important features of the new Lewis.



The Magnetic Gear Shift, manufactured by the Cutler-Hammer Mfg. Company, Milwaukee. Makes the Lewis as easy to drive as an electric coupe; no stripping or clashing of gears. Optional equipment at $150 extra.

SPECIFICATIONS

56-inch underslung rear Springs, easy riding and comfort on country roads. Reserve gasoline supply—Stewart Vacuum feed—Remy Starter—Stromberg new type carburetor—Stanweld Rims—Power Tire Pump—Crown Fenders—a car of "class" from radiator to tail-light.

If you ever expect to be in the market for an automobile, you ought to see and ride in the new series Lewis Six. Send us your name and address and we will send you the big Lewis Catalog and tell you where you can do both.

L. P. C. MOTOR COMPANY
223 PETARD STREET RACINE, WISCONSIN

FREE FARMER'S HANDY ELECTRIC LANTERN FREE

Safe, Sure and Reliable

Many a barn has been burned and the labor of years has been lost in a few minutes by the upsetting of an oil lantern. "The Farmlite" can be thrown into the midst of hay, straw or feed and it will not set fire to it because there is no flame. It is electric. SAFETY FIRST should be the watchword in and around the farm house. There is no danger with this "Farmlite" electric lantern. It is made of brass, nickel-plated. A push of the finger throws the light off or on. No wires. Nothing to manipulate. A child can use it. Burns with any ordinary 25 cent dry battery. Get one now and you will never regret it. Satisfaction guaranteed.

One "Farmlite" lantern will be sent free (safe delivery guaranteed) and postage paid to any person sending $1.00 to pay for Farm News for 1 years. Address

FARM NEWS, Lantern Dept., Springfield, Ohio

CAMERA AND COMPLETE OUTFIT 30c

A Leatherette covered camera and complete outfit of plates, paper, chemicals, etc., with complete instructions so any boy or girl can take GOOD PICTURES of Landscapes, Buildings, Friends, etc. No dark room required. No printing. **Pictures taken and finished in 2 minutes.** Send us year's subscription to our magazine at 25c and 5c extra for postage and we will send camera and outfit free. Offer made to introduce.

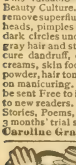
EVERYDAY LIFE, Dept.6C43, Chicago

FOUR FERNS GIVEN

We have obtained a special concession from **Farm Journal**, the standard agriculture magazine of America, for them to accept one-year subscriptions from **new** readers through us. **Farm Journal** is for the whole farm family, the farmer, his wife and children. **Household Guest** is a story, home and fashion magazine. The four ferns will be selected from the following varieties: Boston, Whitman, Ostrich Plume, Elegantessima, Scottii, Sprengeri, Plumosus Lace Fern. Nothing is more beautiful for the home than ferns. We send Farm Journal one year, Household Guest one year, and the four ferns for only 50c., prepaid by parcels post. Send all orders to **Household Guest, Dept. FdF 16, 559 N. LaSalle St., Chicago**

BEAUTY BOOK FREE

This valuable book contains 15 lessons on Beauty Culture. It explains how to instantly remove superfluous hair; How to remove blackheads, pimples and freckles; How to remove dark circles under the eyes; How to darken gray hair and stop gray hair falling; How to cure dandruff, etc., with recipes for cold creams, skin food, shampoo mixture, face powder, hair tonic, etc. Also nine lessons on manicuring. A copy of this book will be sent Free to introduce Household Guest to new readers. Beauty department conducted by Caroline Gray. Stories, Poems, Prize Jokes, Fashions, Social. Send 10 cents for 3 months' trial subscription and Beauty Book will be sent Free. **Caroline Gray, Dept. 16, 559 N. La Salle Chicago**



BASEBALL OUTFIT FREE

combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector or complete suit, including shirt, pants, capand belt, good quality, extra well sewed. Send name and we will send you 8 sets of our fine pictures to dispose of on special at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. *Write today* for pictures. Get in the game at once.

M. D. SEITZ, 7M43 Chicago

BOYS Earn a Watch FREE

I will give you *FREE and Postpaid* a handsome, genuine, *Pure Simulated Gold Watch* for doing 15 minutes advertising work. Watch absolutely guaranteed. Write me *now*—today, *quick* and I will send you my simple and easy plan by return mail. Send me your name and address *right* away.

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Very handsome adjustable bracelet gold plated, set with ruby stone. 3 stone ring free with bracelet. Given for selling 20 Beautiful colored Art Pictures at 10c each.

We trust you. We pay postage and take back unsold goods. 40 extra articles given for promptness. *Send name today.*

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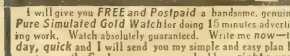

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Latest pocket curiosity. Everybody wants it; tells the time on watch through cloth. Apparently sees your fellow, best girl or any object through cloth, wood or stone, any distance, all climates; lasts lifetime; always ready for use. Price, 25c, stamps or silver.

Mason Supply House, Springfield, Ohio

Silk Remnants for patching Crazy Quilts, Sofa Cushions, Bedspreads. Large pieces, all colors. Big Bargains in Pound Boxes. Send 10 cents for large package and 100 Quilt Designs. 3 for 25c. 1 lb. $1.

Mason Supply House, Springfield, Ohio

SO THAT BOY WONT LEAVE THE FARM

There has been a great deal written the last few years about keeping the boys on the farm. I am a farmer's son, nineteen years old. I don't know very much about the economic part of the problem, but I do know why some boys in our neighborhood have gone to town, while others have stayed at home, and why some are satisfied on the farm while others are not. I am speaking of boys under twenty-one because if a young man works on the farm, with interest and intelligence, until he is of that age, he is not apt to leave it without good cause. He is not likely to go chasing after something that is not there. But if he is kept there by force, or by nagging along that duty-of-the-son-to-the-old-folks line of talk, you may expect him to slip off to something which looks more alluring as soon as he can.

Most writers on this subject agree that the boy over sixteen should have a pleasant social life and should be interested in his work. That is all right as far as it goes. Most of us can see the moon if nothing intervenes. Some think that if the boy has a horse and rig of his own the social problem is solved. I do not consider such a measure either necessary or efficient. Although I would not stay here long if I did not have the use of a horse, yet I get along very well with the family. If father wants to use the horse I don't growl; and then when I make arrangements to go somewhere I know that I can use him without any of the begging or sulking that so many boys have to go through with before they are allowed even the simplest privileges.

After all it is not so much what a fellow has as the use he is able to make of it that makes him contented. One of my neighbor boys was given a horse and buggy of his own. When he would go out to hitch up his mother would bring out his overcoat and make him put it on while she named over the girls who must not ride in his rig. Then his father would tell him not to drive fast or far, and to be sure to tie and blanket that mare when he got there. As he drove out they would both yell that if he was not home before eleven they would know the reason why.

And that was the way it went all the time. I was up there one day a few days before the young man's twenty-first birthday. He was starting out to plow. Or, rather, his father was starting him. The old man stood there and told him where to hitch the tugs and to set the lines, and how to adjust the jointer and handles, and finally drove the team for him the first hour. That was the third year he had plowed. When I started out to plow when I was thirteen, they did not even help me put the plow in the wagon. A little later, when he was of age, he went to work in a big factory. He worked just three days and got fired. The foreman told him to come back when he was able to tie his shoes without being told how.

I think you see the point. I do not believe a boy will take any real interest in his work or play unless he is allowed to, or, in some cases, made to, plan it for himself. Looking at it from the social or moral side, I never could see that the iron-clad supervision which some parents keep over their children's every act helps much towards holding the child in the straight and narrow path. On the contrary, I find that the boy who is continually lectured on the awful effects of the use of strong drink and tobacco is the most apt to be seen behind the barn drinking hard cider and smoking cigarettes. And the boy who has had to sneak his social pleasures is not the one I would like to see with my sister.

In the work-a-day side of his life the boy does not care for a lot of stock to call his own. His father usually manages it anyhow. He wants a real part in the big things doing on the farm. Yet he does not want to be a drudge, valued only for the physical work he can do. When you are building fence he wants to line up the posts, and there is no reason why he should not. If he builds his first fence when he is thirteen, he will get it straighter than if he waits until he is twenty-three. If a farmer's son reaches the age of eighteen without being able to run every machine and perform every operation in use upon his father's farm, then he has had ambitions put down which may never rise again. His attitude toward the farm work has sunk from a lively interest to mere tolerance, and he wants to go to town where he can use his brains awhile and let his muscles rest. But when he tries it he finds his brain is so poorly trained that he finds it very hard to rise from the ill-paid class which receives orders to the high-salaried class which gives them. Employers in the cities like to hire country boys, but they want the ones who are in the habit of doing things without specific orders. That is the kind who do not come home for a protracted visit with the old folks every time there is a slump in the labor market.

Some of you may say that it is easier to tell Jim how to do every little job than it is to do it over after he has done it wrong. No doubt that is true. It is probably also true that it is easier to keep him at home than it is to worry about him when he is out in the temptations of your rural social life. But I think you should look at it this way: You will not always be near to advise and caution. The loss of a dollar through carelessness now will have as good an effect in teaching caution as the loss of a small fortune later in life. And it may save him the serious consequences of gaining experience later in life. Looking at it from the moral side, you cannot possibly expect (unless

things change greatly) that your son will live his life without passing the door of a saloon. And it is not likely that he will never see the glare of the red light nor meet with temptation from some less brazen but equally dangerous form of the vice. The boy should be taught that sin is an element not to be dodged or ignored, but to be met squarely and promptly put down. If you toss him back from one temptation he will land in another. Better just help him trample those which are handy, then the rest will not bother.

The point of it all is this: To be a good farmer a man should be self-reliant, able to plan, and command both others and himself. The best time to get these qualities is in boyhood and the farmer boy will certainly get them if he has half a chance.

MOTHER KAT

By Mrs. A. Morgan

The Little Green Lane had just waked from its winter's nap.

"Come with me," said Spring.

"But I have nothing to wear," complained the Little Green Lane. "My old clothes are all rusty and torn, and my buttons faded and are all blown away."

So Spring gave him a fresh green jacket covered with beautiful golden balls, and together they crept slowly up the hill, down the hill on the other side, and at the foot the Little Green Lane sat down in amazement.

"See," said Spring, "how the Avenue misbehaves."

Back and forth over the Avenue were bustling vehicles of every kind, and skimming in the distance top trains with their feathery plumes of black or white.

The Little Lane, in its slow-moving way, did not understand the necessity for such haste. The conduct of the Avenue was positively disgraceful. It was too much for the Little Lane, so it curled up beneath the huge elm tree and dozed off again.

But what it did not know was this. The "For Rent" sign had been taken down from the old fence post, and two young bluebirds, home from their honeymoon, had rented it for the summer and moved in.

"I like it particularly well," said Mrs. Bluebird to her husband, "because it has a side as well as a top entrance. It is so very pleasant to be able to see a bit of blue sky, or to glance out over the busy pasture and see all our friends hurrying about their work."

But Spring knew all about the bluebirds. O my, yes! and when She passed that way with the little lane Mrs. Bluebird had moved ever so slightly that she might see the four eggs she was sheltering.

But there was Someone Else, a bad Someone Else, who knew about the bluebirds too. Twitching through the grass he had slyly watched Father Bluebird rise from the fence post and fly over to the thorn tree to sing.

"As if he could fool me that way," said the Snake. "I know very well he has no nest in that thorn tree." So he concluded to investigate.

Reaching the foot of the post, he wrapped himself about it, pushing himself higher and higher.

Down the Little Green Lane, crushing alike the brass buttons and the gay, green uniform, wandered Hollis and R. B. Spring had called them, too, and they were turning her pockets inside out for treasures.

"O! look at the snake! R. B.," cried Holly, pointing to the horrid thing wound around the post. "It's after the bluebirds," and the boys gathered rocks as they ran.

But other eyes were watching the maneuvers of that snake, and who do you think it was? Yes, sir! Mother Kat. You should have seen her. Like a small furry she bounded over the long grass, and hurled herself upon him. One vicious bite and he slid down, preparing to strike, but Mother Kat caught him again just back of the head, which changed his mind about fighting for a while—but he was far from dead, in fact, he was very much alive. But Mother Kat did not care for that. Catching him about the middle, she trotted placidly home, not caring a toss of her tail for the two ends of him which writhed and twisted above her head. She was taking home an object lesson to Kitty Gray, that she might teach her not to fear, but to catch, snakes.

In the dusk of that day Hollis, entering the dining room, noticed a dark patch on the crapet. Thinking it a little pool of water, he was about to put his bare foot in it, when something about the appearance of that patch made him hesitate and look down. Two evil eyes were looking into his own, and a wicked red tongue was playing a lightning staccato in his face. Only the injury it had received earlier in the day kept it from striking, surely and swiftly.

Hollis called his father, who soon dispatched it with a shovel; but Mother Kat had forgotten all about it. She was under the front porch trying to teach Kitty Gray how to stalk a mouse.

THE NEWSIE'S PRAYER

By Marjorie M. Carroll, in "Dumb Animals"

You're nothin' much to look at, but I like you jus' the same;
Say Bill, I often wonder how I lived before you came
To cheer me up 'n comfort me when I wuz feelin' blue—
Why Bill, I couldn't get along without a friend like you!

When times wuz hard, 'n all the lads gave me the icy mitt
'N when I'd lost my hold on things, old pal, you didn't quit,
You plugged along, you good old chum, till only skin 'n bones
Wuz left on you—'n even then, 'twas me gave all the groans!

You never even whimpered when the big truck run you down
You jus' lay there 'n looked at me, from them big eyes o' brown
'N looked at me—'n looked—until I thought my brain 'd give,
'N now I'm on my knees, Bill, prayin' God'll let you live!

I don't know much religion, Bill—I only know you're hurt,
'N if by prayin' you'll git well, I'll kneel here in the dirt
'N say, O, Lord, he can not ask fer himself, cuz he's dumb,
He's jus' a poor old crippled dog—but he's my precious chum!

BY THE CLOCK

When it is midnight in New York it is 11 o'clock in Chicago, 10 o'clock in Denver, 9 o'clock in San Francisco, 5 a. m. the next morning in London and 1 p. m. the day before in Manila.

Ride a RANGER

bicycle and *know* you have the best. Buy a machine you can **prove** before accepting.

DELIVERED FREE on approval and *30 days' trial*. **NO EXPENSE** to you if, *after* trial you do not wish to keep it.

LOW FACTORY COST, great improvements and values *never before equalled*.

WRITE TODAY for our *big catalog* showing our *complete line* of 1915 bicycles, **TIRES**, sundries and parts, and learn the wonderful *new offers* and terms we will give you. Auto and Motorcycle Supplies at *factory to user prices*. *Do not buy* until you know what we can do for you. A postal card brings everything.

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The Miami Power Bicycle

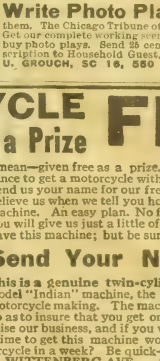
Weighs 125 Lbs.—Costs $125.00

"100 Miles for 10 Cents"

Safe Silent Clean

THE MIAMI CYCLE & MFG. CO.
Dept. F., Middletown, Ohio

POCKET TOOL KIT
10 DIFFERENT TOOLS



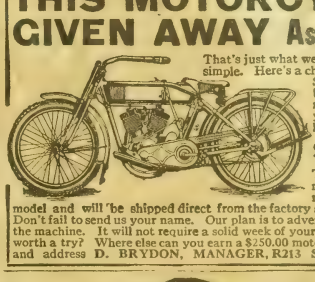
This is one of the handiest and most useful tool outfits ever offered. Handy for the women folks around the house, for the man in the shop, the auto owner, farmer, etc. There are ten different tools and the handle which is hollow and provides a receptacle for the tools not in use. If there is a more useful outfit anywhere we have never seen it offered.

Price is Way Down within the reach of everyone and we guarantee satisfaction or cheerfully refund your money. Send your order today as this price will soon be withdrawn. The complete outfit, neatly packed and sent prepaid for only 55 cents. Address

MASON SUPPLY HOUSE, SPRINGFIELD, OHIO

Write Photo Plays $50 to $100 each paid. YOU can write them. The Chicago Tribune offers $10,000 for a Photo Play. Get our complete working scenario and 50,000 films who buy photo plays. Send 25 cents to pay for a year's subscription to Household Guest, and outfit will be sent free. **U. GROUCH, SC 16, 580 La Salle Street, Chicago**

THIS MOTORCYCLE GIVEN AWAY As a Prize FREE



That's just what we mean—given free as a prize. Our plan is easy and simple. Here's a chance to get a motorcycle with the least possible effort. Send us your name for our free plan. You'll scarcely believe us when we tell you how easy it is to get this machine. An easy plan. No fake puzzles to work. If you will give us just a little of your spare time, you can have this machine; but be sure and

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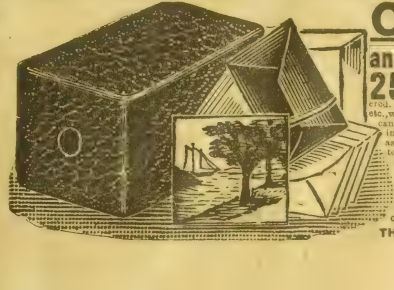
This is a genuine twin-cylinder—two-speed, latest model "Indian" machine, the latest and last word in motorcycle making. The machine is a brand new 1915 model and will be shipped direct from the factory so as to insure that you get only the latest and best. Don't fail to send us your name. Our plan is to advertise our business, and if you will help us you can have the machine. It will not require a solid week of your time to get this machine worth $250.00. Isn't that worth a try? Where else can you earn a $250.00 motorcycle in a week? Be quick—that's the main thing—and address **D. BRYDON, MANAGER, R213 S. WITTENBERG AVE., SPRINGFIELD, OHIO**



CAMERA and COMPLETE OUTFIT 25c

This is the smallest camera in existence. Being a little over 2 inches long. Takes pictures 1¼x1¾ inches. Leatherette covered. Complete outfit of plates, papers, chemicals, etc., with complete instructions so any Boy or Girl can take Good Pictures of landscapes, buildings, friends, etc. Same principle of operation as an high priced cameras. Affords good opportunity to become acquainted with art of photography at small expense. This camera is offered free to introduce our paper, The FAMILY into new homes. Send only 25 cents, stamps or silver, and we will send our paper one year and make you a free present of this fine little camera and outfit, or we will send you our paper 3 years and send you 3 outfits for 60c.

THE FAMILY, SPRINGFIELD, OHIO

THIS PONY FREE

WE WILL GIVE YOU OR SOME OTHER BOY OR GIRL THIS PONY WITH COMPLETE OUTFIT

"QUEEN"

"QUEEN" is the cutest little Shetland Pony we ever gave away. The Pony Editor who has already selected over 300 prize Ponies picked her out of a choice of several hundred ponies. "Queen" with her beautiful brown silky coat looks just as pretty as a picture. Notice how she holds her head like the little queen she is. And she is just as good as she is pretty. "Queen" is about 42 inches high and weighs around 300 pounds. Hitched to her nobby pony buggy which we give with her she steps right into the breast collar with her wide Shettie chest and will haul you and all your boy and girl friends that can pile in up hill and down just about as fast as most big horses. Then if when you get her you want to take a canter across the fields and through the woods, just slip on her beautiful Indian Horse hair bridle and tighten up the dandy saddle (which we send too) and off you go to walk, trot or canter for the jolliest sort of a horseback ride.

This is "Queen"

THE OUTFIT

WE pride ourselves on the kind of pony outfits we give away with our Shetland Ponies. We wouldn't want to give you such a classy pony unless we also sent you the best kind of an outfit to go with her. We send just the nicest kind of a four wheeled pony buggy one that "Queen" can pull easiest and one that you and also your father and mother can ride in most comfortably. The harness too sets off "Queen" to best advantage and is a real Shetland Pony harness. And we want to tell you about the wonderful Indian horse hair riding bridle. Don't believe you ever in all your life saw such a pretty bridle. It is woven especially for us by an old cowboy at Deer Lodge, Montana, out of beautifully colored horse hair, red, blue, yellow, white and black, woven into removable Indian designs and mounted with colored rosettes and horse hair reins ending in a real cowboy quirt. If you want us to send you "Queen" you must send us your name and address right away.

Send Us Your Name Today

If You Want to Own "Queen"

As soon as we hear from you we will tell you how to go ahead to get **"Queen"** for your own. Our wonderful Pony Club is known all over the country because it gives Shetland Ponies to boys and girls and you can have one of these ponies as well as any other child. Don't let anyone persuade you that you cannot get beautiful little **"Queen"** and her outfit because our plan of giving away ponies is different from others. The fact that we have already given 312 ponies to 312 boys and girls all over the United States, from the state of Vermont to the state of California, many going over 1800 miles from St. Paul, is proof that we give ponies away. The postmaster or banker in your town knows that the Webb Publishing Company of St. Paul, Minnesota, who have been in business over 30 years, is one of the largest publishing firms in the United States and can afford to give away ponies to boys and girls to advertise our papers. We never heard of one of the 312 boys and girls until they wrote us they wanted a pony and that is why you must send us your name and address at once if you want us to send you **"Queen"** and her dandy outfit.

We Have Given Away 312 Ponies

Here are the Names of a few of our 312 Lucky Pony Winners

"Cyclone," Raymond L. Hild, York Co., **Pa.**
"Brewster," Paul D. Simms, Custer Co., **Neb.**
"Dud," Margaret Gentner, Erie Co., **N. Y.**
"Pearl," Henry Mullenin, Drake Co., **Ohio**
"Roger" Ruth Wakefield, Faulk Co., **So. Dak.**
"Nip," Gerald Kingen, Stark Co., **Ill.**
"Jumbo," Addison Barber, Barry Co., **Mich.**
"Twinkle," Luther Arnold, Jr. St. Louis Co., **Minn.**
"Zip" Ella Fullam, Randolph Co., **Vermont**
"Pat," Flossie Meredith, Jasper Co., **Iowa.**
"Rustler," Jeanette McCown, Floyd Co., **Ind.**
"Wallie," Victor Harris, Ashland Co., **Wis.**
"Robin" Fenton Brannon, Meade Co., **Kans.**
"Pedro," Harold H. Hodgin, Atchison Co., **Mo.**
"Marmalade," C. A. Andreas, S. Bernardino Co., **Cal.**

Notice we print the names of 15 of our 312 Lucky Pony Winners, which we wouldn't have done if it were not true that we give away real live Shetland Ponies. We haven't room to print the names of our whole 312 Lucky Pony Winners, but we will send them to you just as soon as we hear from you. Possibly some of these 312 Lucky Pony Winners live in your county or a county near you and, if so, you probably know them because our Lucky Pony Winners are the best known children in their locality. However, it doesn't make any difference where you live; if you send us your name and are the lucky child to get **"Queen"** she and her whole outfit will be shipped without one cent of cost to you. If you send us your name the day you read this, we will send you 1000 votes for **"Queen"** and a big surprise that will double your chances of getting a Shetland Pony.

Cut Out and Sign this Coupon
or Copy on a Postal Card and Mail Today
THE FARMER'S WIFE PONY CLUB,
552 Webb Building, St. Paul, Minn.

Please send me Certificate of Entry, and pictures of **"Queen"** and tell me how to take care of Shetland Ponies I haven't any Shetland Pony and want to own **"Queen."**

NAME.....

R. F. D.....

P. O.....State.....

THIS COUPON IS GOOD FOR 1,000 VOTES FOR "QUEEN."

Each Contestant A Prize Winner

All contestants will surely get a prize of their own choosing from a list which we will send them. Besides the Pony Outfit and Twenty-five Grand Prizes we shall offer Gold Watches, Base Ball Outfits, Gold Bracelets, Fountain Pens, Hand Bags, Flash Lights, Rifles, Shot Guns and dozens of other desirable prizes. If you become an enrolled contestant in this Pony Contest you can't lose. But don't let anyone persuade you that you can't win "Queen" because you have the same chance as any other child.

Send Your Name Today

Our ponies are given away so quickly that you will stand a better chance to get this one if you sit right down and write us a letter or a postal card or send the coupon opposite filled out with your name and address (either way will be all right). The work we require you to do to become a contestant for "Queen" is something that any boy or girl who could draw a pony can do and any child who becomes a contestant will win a nice prize, even if he fails to win "Queen" which is the best prize of all.

Address all Letters to **The Farmer's Wife Pony Club** 552 Webb Bldg. St. Paul, Minn.

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AUG 7 1915

FARM NEWS

All that is New and Best for the Farmer

AUGUST Springfield, Ohio 1915

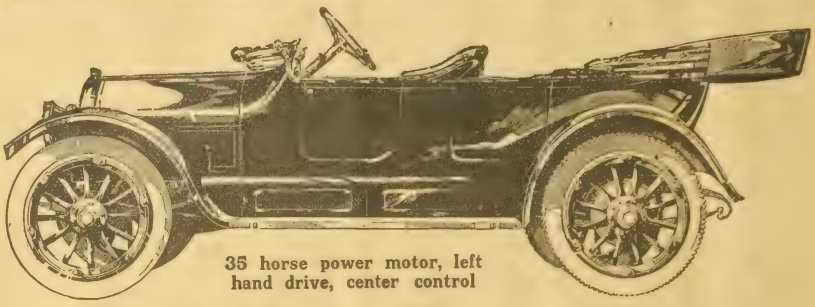
Read "Joy Rides and Business," "Farm Fencing," "Making the Most of Farm Manure" and "The Banker-Farmer(less) Conference," in this Number

To be Given Away

New Overland Automobile

TRADE MARK REG.

The Very Newest and Latest Model, Free and Freight Prepaid



35 horse power motor, left hand drive, center control

Send Your Name Today

Would you like to own this fine, new 1916 model Overland Automobile, without it costing you a cent? We are going to give this automobile to someone, absolutely free of all cost. We will even pay the freight on it right to your home. Remember, the car is absolutely new and it will be shipped direct from the factory to you. It will be fully and completely equipped and would be just the same car that you would get if you went to the dealer and paid him the cold cash for it. We are going to show you how to get this machine with a comparatively small effort. There is not one person who reads this advertisement who cannot comply with the few very easy conditions necessary to obtain this machine free. All that we ask you to do now is to send us your name and we will send you the particulars by return mail. Then you can either accept or decline our offer, as you see fit, but we are sure you will accept it.

A Grand Opportunity

If someone were to show you one of these beautiful Overland cars and tell you that if you would do what is equivalent to one week's work you could have the car, we know that you would accept it. You would not hesitate a moment.

What we are going to ask you to do, in all probability, will be equivalent to not more than this. The little work will be simple and easy—so simple and easy that a boy twelve years old can accomplish the feat and do it easily.

All we ask is a little of your spare time. We are going to pay every person for everything they may do for us, no matter whether they get this automobile or not. Someone is going to get it, and it might just as well be you as anyone else. You can have it if you make up your mind that you are going to get it, and this is not idle talk. It is an absolute and positive fact.

The work required to secure this automobile will represent only a very small fractional part of the value of the automobile. Below you will find a coupon all ready for you to write in your name and mail to us.

Remember, sending this coupon obligates you for nothing. We will send you our offer and if it does not look good to you, that is all there will be to it. The coupon brings you the desired information, so don't fail to send it today. Don't miss the opportunity.

How the Automobile Will be Given Away

We are going to give this automobile, along with hundreds of other valuable prizes, absolutely free, in a new voting contest, particulars of which will be sent you upon receipt of your name and address.

Anyone can enter this contest, old or young, rich or poor. It makes no difference where you live. You stand just as good a chance living in California as you do living in Ohio.

Our plans for conducting the contest are guaranteed to be absolutely fair and square to all. No one connected with our concern, or living in Springfield, Ohio, or Clarke County, Ohio, in which Springfield is located, will be permitted to enter this contest.

We make this rule in order to protect those who live at a distance and to prove to you that our contest will be equally fair and open to all. No one who enters this contest can lose a penny. We have a prize for every one who takes part, and a handsome and valuable one at that. These prizes are all given in addition to the big, grand, free automobile, which is the first prize.

We, therefore, ask you to send us your name and address promptly, so that we may give you the information which you desire. The whole plan is very simple and easy. There are no catches or strings to it. It is very plain and even a child can understand. *Send the coupon.*

Hundreds of Prizes for Everybody

Remember, there is a prize for each and every one who enters this contest. These prizes will not cost you a cent of money.

The little favor that we ask you to do can be done in your spare time and is so plain and easy that anyone can perform it.

Here's the chance of a lifetime to get a genuine, new Overland automobile without it costing you a penny. An opportunity like this may never come to you again.

We are an old, reliable concern, financially responsible, and can give you the best of bank references, if you so desire, so please do not hesitate, but send us the coupon and see what we have to offer you. Do it today while you think of it. Address

FARM NEWS, Auto Dept. 21, Springfield, Ohio

Send This Today

FARM NEWS, Auto Dept. 21, Springfield, Ohio

Please send me particulars about your great free Automobile offer by return mail.

Name _____

Town _____

State _____ *Route No.* _____ *Box No.* _____

BANKER-FARMER (LESS) CONFERENCE

As Seen by a Farm News' Staff Contributor on the Spot

THERE are two kinds of farmers —Farmers and hyphenated farmers—the distinction being somewhat like that between Americans and hyphenated Americans. As there was not a Farmer in evidence at the "Fourth Banker-Farmer Conference," held in Chicago July 7-8, it has occurred to the undersigned, who is a Writer-Farmer (there it goes again) that Farmers would be mightily interested in knowing what it was all about, and what went on at these meetings held in the height of the crop season.

I am sure that if the farmer who reads this could have spent two days in the Red Room of the LaSalle Hotel, with his ears wide open and his mouth tight shut, he would have received some very stimulating lessons in the trend of the times.

Now this isn't going to be a long-winded report of the convention, but just a few side-lights—personal impressions—such as the reader would have gathered had he been present. I think the Farmer (capital F please) is entitled to know what is going on about him when he isn't looking.

Don't mistake me. There was nothing impolite said, and no trace of conspiracy evident. On the contrary there was nothing but the most courteous consideration for the Farmer shown by all the speakers. Indeed the courtesy and consideration were almost unctious, if you konw what I mean—not laid on with a trowel exactly, but there was a-plenty, a-plenty!

As I sat there listening to the brilliant eloquence of those well-upholstered banker gentlemen, and their equally impressive guests, who helped with the gab-fest, divers and sundry thoughts flitted through my mind. Incidentally it is the mind of one who has spent many years at horney-handed toil in the fields, and hopes to spend some more; his sympathies are with those of his own kind—the men who wrest a living from the soil, and then put their ultimate product—the dollar the banker people know so well how to handle for us—where it will do us the most good for the man who earns it and his community.

The first thing I want to say is that the delegates to this conference of the American Bankers Association are high-minded, sincere men, who are going at this thing in their usual straightforward and effectual way. I am convinced they are not trying to "put anything over" on the Farmer. I saw no suggestion of underhanded or coercive measures leading to partizan publicity or privileged legislation.

The banker is a friend of the farmer, just as other folks are friendly, because it is to their interests to establish a basis of brotherhood with their fellow-men, instead of harking back to the middle ages when the rule was "let the buyer beware," "every man for himself, and the devil take the hindmost," etc. The banker is your friend, brother Farmer, just as you are his friend—because you need each other, and you can profit mutually if you lay aside suspicion—and keep your eyes open.

The next point is that all this palaver and the movement back of it stands for two great ideas in the minds of the banker fraternity. One is that the farmer needs uplifting, and the next is that the bankers are capable of doing the uplifting.

Now I don't mean to say that the money handlers are at all offensive in this attitude of mind. They are perfectly frank and aboveboard in what they are trying to do. They realize that farm life is not what it should be financially and socially. The mere fact of this convention, and hundreds of similar agencies set a-going during the past twenty-five years for rural betterment, emphasizes my third big impression, which is that the greatest drawback of farm life is its lack of organization. Almost everything else on the map is organized. It accounts for the magnitude of the war; for the rise of the labor unions; for the power of the moneyed interests; for the greatness of our manufacturing industries; for progress in commercial and professional lines everywhere.

With all the things being done for, and to, him, the Farmer is naturally interested in some of the things which are being advocated for his so-called uplift. This report of the Banker-Farmer Conference, held at Chicago last month, is from the unbiased viewpoint of one of our staff writers who was right on the ground. It contains many points well worth the attention of Farm News' readers, as showing, to some extent, what the well-upholstered bankers have in mind as being best for the welfare of the Farmer's Dollar.

"In the multitude of counsel there is wisdom," and "in union there is strength." With wisdom backed by power you can accomplish anything, for these two ingredients make for efficiency—and efficiency is nothing more nor less than doing things right.

The farmers of this country are strongly individualistic. They have nothing approaching organization. They have not even made a beginning at a nation-wide unity. Whether they will do so in the near future seems, on the whole, extremely improbable.

As the farmer lacks this shoulder-to-shoulder solidarity necessary to bring about a score or more of needed reforms—and every intelligent person knows what they are, and that some of them are crying out for attention—the real friends of agriculture, public-spirited men, with an eye single to the cause of the whole people, have done their best to foster this basic industry.

I wonder if the farmer would not be better off today if he had not had so much done for him. They say we do not value what we do not strive for, and that if you persist in helping a man, when he ought to help himself, you pauperize him. If history teaches us anything it is that there will be no rural reforms worth mentioning until they are brought about by the one remedy for all human ills—personal effort on the part of those who suffer.' To illustrate, the Emancipation Proclamation set free the black slaves of the south—theoretically—but the negro must free himself by his own morality and industry.

To my mind the lessons of this conference are that if the farmer wants better schools and roads, if he wants up-to-date county demonstration, if he desires effective co-operation, better rural credits, better tenant systems, better marketing and distribution methods, soil surveys, community centers, more joy and higher citizenship on the farm —he had better get to work and earn it. For it never will come gratuitiously from the otuside, but only through the initiative of those who are to benefit. Even if it were possible for a magician to wave his wand and supply all these goodies ready-made, they would not make the farmer and his family happier any more than does charity from the benevolent increase the beggar's self-respect.

Another significant point which was conspicuous for its absence (whether intentionally or not who shall say?) is that dozens of college professors, agricultural editors and bankers discussed the tenant evil and its short-term leases, the soil fertility problem and its ruinous wastes, the farm mortgage and its hardships and kindred topics, but no one referred to land speculation, which is the real seat of the disease. Nobody said that land prices are away above land values—the distinction being that "price" is what a thing will sell for, and "value" is its earning power.

How can a tenant be asked to maintain soil fertility when he is going to move next year? Why should anyone expect the landlord to make a ten-year lease and uphold the integrity of his acres, when next year or perhaps the year after, his farm may be sold on a rising market? With the tenant moving every two-and-a-half years on the average, and the landowner moving every twelve years—astounding fact!—why should the average farmer be expected to do anything permanent to build up a mutually helpful rural community, with all its attendant blessings? How can a general system of long-time mortgages be inaugurated under a hab-

(Continued on Page 13)

ESSENTIALS FOR PERMANENT FENCES

Concrete Posts and Woven Wire Give Desired Results

By W. H. Purdue

ALTHOUGH in woven wire fencing we have a material from which to construct permanent fences which will endure for many years, the life, stability and usefulness of any wire fence depends very largely upon good and secure end and line posts. As a rule, too much emphasis is placed by farmers upon having good solid end posts, and the line posts are less carefully seletced and put in place. Yet the line posts are subject to a great strain, and they should be set deep and solidly. In fencing over uneven ground, all line posts in the valleys should be securely anchored in order that the tightly stretched fence may not lift them out of the ground when the ground is soft, as after a heavy rain.

There can be no question but that, for permanent line and road fences, concrete posts are the most economical for the farmer who does not have timber of his own that is suitable for posts. The cost of wood posts when bought averages almost as high as those of concrete which the farmer can construct himself, and while the former must be replaced every ten years or so, concrete posts, if they will not actually last forever, as is commonly believed, will at least endure during the lifetime of the owner of the farm.

Concrete end or corner posts nine feet in length and 12 x 12 inches at surface of ground and 8 x 8 inches at top of posts, and two or more 6 x 6-inch braces, can be constructed at a cost of from $3.25 to $3.50 exclusive of labor, the cost depending somewhat upon the local prices of materials entering into their construction. Such a post calls for a mixture of four parts of screened gravel to one part of cement below ground and three parts of gravel to one of cement above ground.

Small boulders can profitably be dropped into the hole as the concrete is poured; besides making a stronger post they displace considerable of the more expensive material. Such stones should not be mixed with the concrete above the surface of the ground, however. Old gaspipe, which can be obtained from junkers at a cost of one-half cent per foot, can be used for reenforcements for these posts.

Since concrete corner posts can support four strings of fence, adjoining landowners are usually ready to bear a proportionate share of the expense of constructing concrete corner posts and braces, even though they don't intend to erect fences immediately. They know that when they do get ready to put up fence the post and a brace will be available for their use. Line posts may also be constructed of re-enforced concrete at a cost of from fifty to seventy-five cents each.

The wooly-backs leave no remnants on a fence of this kind

The farmer who raises horses for the market should dispense with barbed wire fences, and especially between pasture fields where the horses run. Horses are sure to play and paw into a barbed wire fence, and a ruined or dead animal may be the result. The price of a fair horse, as the market goes today, will buy many rods of woven wire fencing. Viewing the matter from all angles, the barbed wire fence is practically obsolete, and the farmer who is in need of new fencing ought not to purchase barbed wire. There are so many woven wire fences in the market that give most excellent results, and the price is within the reach of all so there is not much excuse for the barbed wire fence any more.

For fencing off one end of a meadow or stalk field for the purpose of providing additional pasture for cattle, two strands of barbed wire stapled to light posts will usually give satisfactory results. But barbed wire has little to commend it when used around fields in which horses run. Every farmer knows of instances in which valuable horses have been ruined, so far as their market value is concerned, because of injuries sustained in a barbed wire fence.

Woven wire with concrete posts not only makes for permanence, but adds to the natural beauty of the landscape

Cattle are not so likely to become entangled in such a fence as are horses, and in case the former do get fast any cuts received will not seriously affect the value of the animals for milk or meat purposes after they have recovered. But every blemish depreciates the market value of a horse to a certain extent, and accordingly horses should not be allowed near a fence constructed wholly of barbed wire.

It is almost necessary, in building woven wire fence, to stretch one barbed wire about four inches above the top of the woven wire. This is not so much to keep stock from getting over the fence as to prevent the animals from reaching over to obtain choice bites of grass on the opposite side, by which practice they will soon break down and ruin a fence not protected by barbed wire. Attention should be given to this wire from time to time, so that it may be kept taut and firmly stapled to the posts, in which case it is not likely to prove very dangerous to live stock.

A fence like this indicates a man from whom the highest grade products may be secured

It is also a good practice to cut off the corners of the pasture fields with heavy poles or smooth wire. The animals will often congregate in the fence corners, and some of them may get hurt. This can largely be avoided if the above suggestion is put into practice.

DETASSELING THE SEED PATCH OF CORN

Detasseling the barren corn stalks in the corn field is a decided success in breeding out nubbins and earless stalks. The task is so quickly done that every farmer should at least do this work in that portion of the field from which the supply of seed will be gathered. Every plant in a field should produce a well-developed ear of corn under favorable conditions, provided it did not inherit a tendency to produce a barren stalk or a nubbin. This weakness can be entirely bred out of our cornfields in time, by persistent efforts along the line of detasseling.

As the majority of farmers know, the tassel is the father and the ear the mother of the embryo kernels of corn. Cover the silk or blossom of an ear of corn with a bag before any pollen or dust from the tassels fall, and no kernels will develop on the cob. The stalks that are earless usually produce larger tassels and more pollen than the productive ones, because of the light demand on the strength of the plant, hence the greater necessity of disposing of such loafers before they pollenize others that are productive.

The field where detasseling is to be done should be carefully watched, so that the work can be commenced before any pollen is ripe. The tassels are easily pulled with a quick, snapping motion of the hand. The tassel can be pulled out of the sheath that encloses it much quicker than it can be cut off, and with less injury to the plant. An active man, taking two rows of corn at a through, can detassel from four to eight acres a day, depending upon the condition of the crop.—W. F. P.

CHANGE THE VIBRATION

It Makes for Health

A man tried leaving off meat, potatoes, coffee, etc., and adopted a breakfast of fruit, Grape-Nuts with cream, some crisp toast and a cup of Postum.

His health began to improve at once for the reason that a meat eater will reach a place once in a while where his system seems to become clogged and the machinery doesn't work smoothly.

A change of this kind puts aside food that is slow to digest and takes up food and drink of the highest value, already partly digested and capable of being quickly changed into good, rich blood and strong tissue.

A most valuable feature of Grape-Nuts is the natural mineral elements (phosphate of potash, etc.,) grown in the grains from which it is made. These elements are absolutely necessary for the well-balanced rebuilding of body, brain and nerves.

A few days' use of Grape-Nuts will show one a way to physical and mental strength well worth the trial.

Look in pkgs. for the little book, "The Road to Wellville," "There's a Reason."

NEW USE FOR APPLE JUICE

The United States Department of Agriculture has applied for a public service patent upon a new way of preparing apple juice, which will allow every cider mill in the country, by the instalment of some additional machinery, to place on the market this new evaporated juice for a table syrup.

The process also yields a by-product chemically known as calcium malate, a substance used in medicine, which now sells at $2.00 a pound. This promises an effective way of using that part of the apple crop which annually goes to waste.

Concrete corner post and braces

The Greatest Cleanser of All.

The Black Quaker is on Every Label

The Standard for Over 50 Years

CLEANS WITHOUT SCOURING

Makes soap without boiling. Turns well water into rain water. Makes cheapest, most efficient washing fluid — to be used without powders, chips, etc. Supreme as disinfector and vermin exterminator. Ask for booklet of other uses.

PENNSYLVANIA SALT MFG. CO.
Manufacturing Chemists PHILADELPHIA

CORN HARVESTER Self Gathering for cutting Corn Cane and Kaffir Corn. Cuts and throws in piles on harvester. Man and horse cuts and shocks equal to a Corn Binder. Sold in every state. Price only $20 with fodder binder. The only self gathering corn harvester on the market that is giving universal satisfaction.—Dexter L. Woodward, Sandy Creek, N. Y., writes: "3 years ago I purchased your Corn Harvester. Would not take 4 times the price of the machine if I could not get another one." Clarence F. Huggins, Speermore, Okla. "Works 5 times better than I expected. Saved $40 in labor this fall." Roy Apple, Farmersville, Ohio: I have used a corn shocker, corn binder 2 rowed machines but your machine beats them all and takes less twine than any machine I have ever used." John F. Hagg, Mayfield, Okla. "Your harvester gave good satisfaction while using filling our Silo." K. F. Ruegnitz, Otis, Colo. "Just received a letter from my father saying he received the corn binder and he is cutting corn and cane now. Says it works fine and that I can sell lots of them next year." Write for free catalog showing picture of harvester at work and testimonials.

PROCESS MFG. CO., Salina, Kansas

O K CHAMPION DIGGERS

4 Different Sizes and Types

Our machines are designed and built to meet all conditions under which they may be worked. They embody every point of construction which insures freedom from breakdowns, costly waits and expensive repair bills. Saves time in harvesting and saves money on your crop of potatoes.

FREE Make inquiry. Write today for our DESCRIPTIVE LITERATURE, ETC. giving particulars of the O. K. Champion Line.

CHAMPION POTATO MACHINERY, COMPANY
77 Chicago Avenue, Hammond, Indiana

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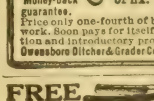


with this common sense farm ditcher and road grader. No wheels or levers. Nothing to get out of fix. Simple—Practical.

Ten days' trial. Money-back guarantee.

Price only one-fourth of big machines. Does same work. Soon pays for itself. Write for full information and introductory proposition.

Owensboro Ditcher & Grader Co. Inc. Box 844 Owensboro, Ky.

FREE TRIAL

Use the FAMOUS KARNAK RAZOR for 30 days FREE; then pay us $1.85, or return the razor. Send your name and this ad, (no money) and get razor by return mail.

More Company, 220 More Bldg., St. Louis, Mo.

JOY RIDES AND BUSINESS

May be Combined With an Automobile on the Farm

By H. A. Bereman

THE farmers of England are the descendants of Britishers who have lived on the same land for hundreds of years. Each county has its peculiar customs and dialect. I have talked with a Lancashire man, and understood perhaps half what he was saying. He was equally at sea in conversing with a Devonshire lad, who had been raised less than a hundred miles away. These simple folk have "stood pat" through all these generations without intermingling with the rest of the world. Rarely does one of them leave his own immediate neighborhood. In their narrowness and provincialism they illustrate the effects of social stagnation and isolation.

We have something of the same situation in the mountainous regions of Tennessee and other parts of the south —peoples who have shut themselves in and the world out. They are like driftwood, caught in an eddy—circling round and round, and never making progress in any direction. They are illiterate, uncultured, and contribute nothing to civilization but deadly feuds and moonshine whiskey.

This isolation of the mountaineer is exceptional in our land. The typical American is wide-awake, he is up and doing. We live in an age when action is the keynote. The very air is charged with an electric current of achievement. This desire for self-expression, for "something doing," is not mere restlessness—it is a symptom of a deep and natural desire to live rather than to vegetate.

Farming has always been a lonesome job. Requiring wide spaces, the farmers' life has been bounded by the family circle. Isolation was the one tragedy of rural life—for man by nature is a social animal. During countless ages the race has survived by flocking together in tribes for mutual protection. In the heart of every normal person there is a longing for human companionship.

A hermit is one who is spiritually sick —a fit subject for the alienist. The sheep-herder of the far western plains, wandering for weeks with nothing but a dog and a band of wooly backs for society becomes "locoed"—touched in the head. He degenerates mentally, physically and morally through sheer loneliness.

The farmer and the farmer's wife—especially the latter, because her life is more circumscribed—becomes dull, and sometimes very much worse, not because of hard work, but because after the hard day's work is ended there is nothing inspiring at hand to break the nerve tension. This is what drives boys and girls from the farm to the cities, and impels the fathers and mothers to sell the old place and move to town, where deadly monotony does not corrode the soul.

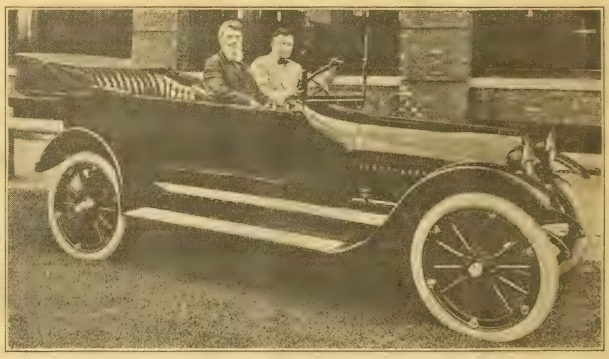
It is true that in the old days the folks would occasionally hitch up a work team and drive over to Aunt Mary's for a little visit, but the team was tired, and little better than Shank's mares for rapid transit. So for the most part country people endured what seemed incurable, or they broke loose and quit the farm.

Then all of a sudden came the automobile. It has revolutionized rural life and solved fifty-one per cent of the farmer's problems. At first the auto was a plaything of the rich. As engines and differentials and lubrication and ignition improved, and tire troubles lessened, the auto became no longer a toy, but a substantial fixture in the economy of human affairs. Enterprising farmers bought automobiles, and gradually they have become so common that the "automobile farmer" is taken as a matter of course. One firm turns out nearly a thousand completed machines a day, and it is said that there are more autos in the country than in the cities. No auto census lasts long, as the business grows too fast for accurate enumeration.

With the city family the auto is chiefly a source of recreation, although many a business man spends more than a nickel's worth of gasoline to ride to his office in comfort by his own private jitney line.

With the farmer the auto is still more of a recreative agent, because it annihilates distance, and puts the ten-mile farm on the outskirts of town. It enables the whole family to pile in after the chores are done, and hike off to 'most any old place for the exhilaration of the motion, the refreshing relaxation of tired muscles, and for the delights they find at the end of the journey.

The worker who can look forward to an evening or a Sunday outing, whizzing along at thirty miles an hour to some place where wholesome social joys await him, can stand the grind of toil. To look back upon the scenes of last night's trip, and recall to the inner eye the fun and frolic, or the solemn and uplifting joys of intellectual or religious intercourse—this experience puts new life into the human body and mind. It means more and better work and that means more prosperity. So the automobile on the farm is not a mere pastime—it is a wise investmen, just as a man can do more work in six days than he can in seven.



The elderly man on the left is Mr. J. M. Studebaker, the surviving brother of the original five brothers, who started the Studebaker business in 1852

But necessary as the auto is to the farmer as a source of pleasure, it does not stop there, as it usually does with the city family. The farmer has utilized his runabout or his touring car and made of it a general-purpose roadster. His heavy work, of course, must still be done with the slow and plodding drafters—ponderous tractors—but the everyday gasoline car is a great deal more than a thing of joy rides. Nevertheless, swift and sure, the machine dashes to town for repairs suddenly needed; it carries the can of cream to the shipping platform, it delivers butter and eggs and honey and cottage cheese and fruit and vegetables and farm-cured meat, and other good stuff, direct to the ultimate consumer, who thinks first of quality and service and second of price. The little old buzz wagon serves a score of purposes tagged with the dollar sign. In brief, it is a business proposition any way you look at it, and the up-to-date farmer can no more get along without the auto than his father got along without a good team.

The last score of years has been an

age of magic. Not all the mystic tales of the Arabian Nights can match the modern realities—the mechanical marvels brought forth in the last generation. Among them all—the mysterious wireless, the thrilling aeroplane, the 100-car freight trains, the floating hotels that cross the Atlantic in five days, the near-human machines that do everything but think, the thousand-and-one devices that shorten labor and lengthen life—none of them exhibits the spectacular quality of the rise of the automobile.

One of the expected developments has been the gradual reduction in prices. Not that dealers are satisfied with less profits than formerly, but that the cost of production is lessened by the larger output. A better car can be bought today for $500 than ten years ago for twice the sum. The "latest model" notion is passing, and manufacturers are building cars for keeps. Improvements will continue to appear, just as they do with other appliances, but the roadster of today is a dependable transportation unit that will not go out of date during its probable lifetime.

The era of the auto emphasizes an important fact, namely, that the farmer of the future will be a mechanical person. He must know how to make repairs, and apprehend the underlying principles of the gas engine, and other parts of the ordinary car. Without this knowledge he is at the mercy of the auto-doctor, who will charge him good and plenty for diagnosis and operation.

But then the farmer of the future must be a good mechanic on general principles. He must equip a shop, and know the feel of tools; he must understand cams and levers, pinions and gears, spark plugs and fuel mixtures, and a whole tribe of physics, in order to farm by modern methods. Modern methods involve first of all the use of modern machinery, and the farmer who tries to compete with the world without a silo, a lighting system, a farm truck, and high-pressure implements generally, is going to eat a lot of dust at the tail end of the procession.

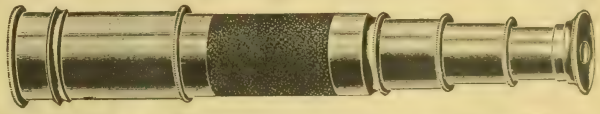
What car to buy? That is the momentous question. It is no longer "shall we?" If you've got the money in the bank spend a few cents on postage, and get busy with your auto education. It is surprising how entertaining and instructive are the catalogs of enterprising manufacturers.

My own choice of a car is based upon the same principle whereby I recommend the best breed of dairy cattle—the best is the one you like. You can safely shut your eyes nowadays, and plunk your forefinger down at random, repeating the juvenile formula for such cases made and provided: "Eeny meeny miny mo," or "my mother told me to take this one!"

No maker can afford to build a poor car any more. Competition compels honesty and ability. Manufacturers seem to be striving for excellence, not with the idea of mere "business getting" for this year's sales, but "business building" for all time. Your car is thus practically guaranteed to you. Indeed it is warranted outright for a certain period. The maker knows the material and workmanship that goes into his product, and he can afford to carry the

(Continued on Page 13)

This Telescope Given Away



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N. DUNN, Manager Department 11 SPRINGFIELD, OHIO

MAKING THE MOST OF FARM MANURE

One of the Leaks From Which Drops of Profit Ooze

By George B. Crane

FARMERS of the Middle-Western states, where lands in the most part have been considered fertile, are finding a new appreciation of the value of farm manure. For years their lands have been heavily cropped, and they have not had to pay as much attention to the maintenance of soil fertility as farmers in states less fertile, naturally.

They now see that even the best soils cannot go on indefinitely without replenishing, and in their new attack they are taking steps to get the full value of the plant food produced right on their own farms. That is manure.

Two factors should make us realize that not a bit of farm manure should be wasted. These are, first, the plant-food value of well-preserved manure is relatively high and more valuable because it is produced at home; second, the rate at which this plant food is lost when the manure is not properly cared for. In other words, farm manure when produced is a valuable product, but left where it will ferment and leach in the open barnyard, or under the eaves, we will lose money fast. The rate of loss will be in proportion to the number of animals we keep on the farm.

In order that we may realize how valuable a product farm manure is, consult the following figures, compiled by the Purdue (Indiana) Experiment station: When properly cared for, the manure from a well-fed horse in a year is worth $14.75; from a dairy cow, $18.75; from other cattle, $11.60; sheep, $2.25, and from a hog, $2.10. With these figures as a basis, you can easily figure the value with your present stock of farm animals.

August, to many farmers, is the time when they think about getting the bulk of the manure on the land. This is a period when farm work is in such shape that they can devote the time to hauling manure. The land, too, is usually in better shape, easier to get onto, and there are more "empty" fields ready to receive the application. To most farmers it is also logical to put the manure on the wheat ground.

The plan of allowing the manure to accumulate for a number of months is not wise, unless some means to properly preserve it is provided. Pressure of other farm work during the spring and early summer often makes it necessary to allow manure to accumulate for several months. This brings up the problem of how to keep the manure from losing its plant-food value during the time it is held.

In general, we may say, the use of concrete floors and pits will be the most satisfactory method of preserving manure. It has been proved that a good concrete pit will pay for itself in two years in the plant food it will save. The best point about a concrete pit is that it will preserve the greater proportion of liquid manure. Experiments conducted by a number of our experiment stations show that the urine voided by animals contains more than half of the fertilizing value of the manure. A concrete pit, which need cost but little, can be easily made, and should be placed so as to be easy of access from all parts of the stable, and at the same time be convenient for the wagon or spreader. Then, manure is much more easily loaded from a pit than from a muddy barnyard or a stony stable entrance.

The covered barnyard, to the right, is not only handy, but saves many dollars, by protecting manure from the weather

Getting "home-made" plant food onto the land efficiently

One of our neighbors, who is getting the full value of the plant food from the manure produced on his farm, has a concrete pit at the end of his barn, just outside the windows of his stables. The barn itself has a concrete foundation. Joining this wall, at each end of the pit, which is 30 feet long, are concrete end walls, which slope gradually to the outer curb, about eighteen inches high, and eight feet from the foundation wall. Inside this wall the floor is cemented, making an impervious, convenient, boxlike pit for holding the manure. The low outside wall permits easy loading to the spreader from the pit.

Practically the only danger of loss of plant food stored in a pit is from fermentation. This, of course, cannot be stopped entirely, but it can be kept at a minimum by keeping the manure well compacted, so that the air will be excluded, and by treating the manure in the pit with a small quantity of acid phosphate, which will combine with the ammonia (nitrogen) in the manure, and retain it until spread upon the land.

Another method followed by many farmers to retain the full value of the manure until it is put on the land, is by using a covered barnyard or shed. This plan is ideal, because if the animals are permitted to run in the covered barnyard or shed, they will keep the manure well compacted under foot, and reduce the losses from leaching and fermentation to a minimum.

When manure is once produced and preserved properly, the next step is to get it on the land in good shape. The most efficient way is to use a manure spreader, and it can be safely said that no other implement on a stock farm pays bigger returns than this convenient vehicle. In addition to saving time and energy in distribution, the spreader will cover more acres uniformly, thus getting full value from the manure.

Another thing to watch is the selection of the field and soil which most needs manure. Then it must be remembered that manure not only adds plant food to the soil, but it also adds organic matter as well. Muck or black soil would be little benefited by manure. It should be put on clay and sandy soils. As to the rate of application, many think it better to be applied oftener and in small quantities, than to make a heavy application several years apart. Six to eight tons to the acre is a fair application.

SUMMER MANAGEMENT OF HOGS

Sun shades, pure water and succulent grazing are three very important factors in the summer management of swine. Hogs suffer more from heat than any other class of animals. When they were removed from their native shaded haunts, and confined in pens and open yards, exposed to the hot rays of the sun, and by the change transformed from lank, large-lunged animals into modern fat-backs, they were made peculiarly susceptible to the sizzling rays of the summer sun. Hogs that are confined in open yards, where they are exposed to the hot sun do well to keep alive, even though they are consuming sufficient feed to make two pounds of pork a day. Sunshades mean comfort, and comfort brings economy in the use of feed, rapid gains in flesh, and increased profits at the season's end.

Hogs do not perspire. Other animals are provided with pores to carry off excretions and remove heat from the body, but not so with the hog. A few large pores on the legs provide the only means of carrying off excretions, while the thick layers of fat check the radiation of heat from the body. Not only is this so, but hogs are fed more heat-producing food than other farm animals, and in the operation of converting this feed into meat there is a great amount of heat which cannot readily escape.

NECESSITY FOR SHADE

The necessity for providing shades for hogs in summer is overlooked by the majority of farmers throughout the country. It is astonishing to note how many herds of hogs are compelled to lay in the sun and suffer during the summer days. If the herd has access to an orchard or wood-lot they will not need artificial shade. However, if they are confined in open lots, they should have sunshades built to protect them. A cheap and efficient shade can be erected in a few hours, and at practically no cost, aside from the labor. A few posts, some old boards or saplings, and a straw or hay roof makes an ideal shade. It is preferable to one of boards, and the straw or hay roof is cooler than one of lumber.

In building sunshades it is better to build them at the highest point in the field, so that the hogs will get the full benefit of every breeze. Few farmers realize the great losses that are due directly to overheating, and such losses can be guarded against only by providing a retreat for the animals during the heat of the day. Days when the weather is extremely hot it is an excellent plan to sprinkle the soil under the shades with water. One barrel of water will help keep down the temperature during the middle of the day.

SUPPLY OF PURE WATER ESSENTIAL

Providing a plentiful supply of pure water is a difficult problem on many hog farms during the summer. A running stream in the yard is very desirable, provided there is no danger from contamination upstream. Under no circumstances should hogs be kept in yards or pastures that contain a large stream that flows through other hog yards or pastures upstream.

In supplying drinking water for the animals, care should be taken to keep the supply clean and wholesome. There are several ingenious devices which are cheap and efficient. These may be attached to a pipe line or to a stock tank or barrel. They are fitted with a float which regulates the supply of water in the drinking vessel. The drinking vessel is small, and does not admit of the hogs getting their feet into it. If a barrel is used it is advisable to add a small handful of lime to the water, to prevent it becoming stagnant when heated by the sun. Foul water is unfit for hogs, and makes them susceptible to infectious and contagious diseases and ailments.

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CULLING DAIRY HEIFERS

No dairy farm can afford to do without good dairy heifers, or which can afford to keep the poor ones. It should be a process of the survival of the fittest, and the fittest can only be determined by the practice of a systematic milk record account. The heifers should be culled, but all the good individuals must not be disposed of, and leave a herd vacancy to be filled from other herds, very often of unknown quantity.

The safest way to replenish the milk supply is to keep records in the herd, and breed the cows to the best dairy bulls, selecting the best heifers for one's own use. Of course only heifers from heavy-producing cows are eligible for a place in the best herds. This permits of a thinning out during the early life of the calves, those from low-producing cows going to the butcher for veal. Only the calves from the good cows are left, and as time goes on a few of these will be noticed to be making poor headway towards becoming profitable dairy cows.

As soon as convinced that there is no milking future for such an animal she may as well be disposed of, but she should not be discarded because she shows a little tendency to run to beef. This is not always a bad sign, even in a dairy heifer. Such a heifer usually has a good constitution, and this means a lot to a dairy cow. If she is bred right she ought to be given an opportunity to demonstrate her ability at the pail before condemning her.

It is not wise to keep the heifers thin. While they must not be loaded with fat, it is essential that an abundance of feed be given in order that maturity be reached at as early a date as possible, or at least as soon as it is possible to obtain before the first lactation period. As a rule the best all-round dairy cows result from a service which brings the first milking at about thirty-four months of age. As milking drains on the vitality of the heifer, she must be prepared for it, and the time to do it is while she is young, from the calf stage on to past breeding age. A little fat put on then may be useful afterward. Growth is imperative.

These conditions make liberal feeding a necessity, and with good feeding go all the other practices of care and management intended to formulate and complete a machine for the production of milk from the raw food material on the farm.—U.

SELLING DAIRY PRODUCTS

A good many dairy farmers who sell butter or retail milk and cream are confronted with the problem of getting the most satisfactory market possible for their produce. As a rule it is easy to secure some kind of a market, but to obtain the most desirable market not infrequently requires considerable effort. It is often the case that outside markets offer better prices for dairy products than does the home market.

This is especially true of butter and cream. These products permit of long-distance shipping, and there are many outside markets which may be glad to get them at fancy prices when the market at home may be entirely overstocked. No producer of dairy products should expect the market to come to him. He must seek the market if he is desirous of obtaining, and does secure, the greatest profit from his vocation.

A personal visit or correspondence with managers of cafes, hotels, restaurants, drug stores and fancy grocery stores, in different cities, is an excellent means of getting more business and higher prices for the products. Where one is just starting in the business of selling the products of the dairy direct from the farm, or is trying new markets, it is a good plan not to ask very high prices at the beginning. It is better for him to demonstrate the merits of his goods. If these are of high order consumers will gradually respond to the demands for an increase in prices rather than do without the products, and use those of lesser grade. Too high prices at the start are likely to discourage prospective buyers, and thus deprive the producer of an opportunity to prove the merits of his products.

Uniformity of the products is an essential feature. Where this is lacking improvement in other directions will be of little avail. On the other hand, products which are uniformly the same, or as nearly the same as it is possible to have them, week after week and month after month, are likely to command sat-

isfactory prices even when of only medium quality.

Another matter of importance is punctuality. If a customer expects his milk at a certain hour it should be delivered to him at that hour. He should not be expected to wait fifteen minutes after the time has expired. It is better to be fifteen minutes too early than late. If one is shipping milk or cream, or butter for that matter, he cannot afford to miss the train even a single time. It means greater disappointment at the other end of the line than one would anticipate. One should always put himself in an attitude to please his customers.

If criticisms come concerning the products, which are very apt to be made by persons hard to please, the seller cannot afford to resent them. Usually there is a reason for the criticism, and the thing to do is to endeavor to discover the trouble and remedy it. Cleanliness and neatness in all things, and at all times, must characterize the dairy business. Milk wagons, cans, bottles, drivers and butter packages must present a clean appearance. External appearances count for a great deal in these days when sanitary matters are so important.

The name or monogram of the dairy placed upon the products guarantees genuineness, and will assist in obtaining a better and more extended market. It is one of the best ways of advertising a product of superior quality.

Where dairy products are shipped some distance it is well to determine beforehand the reliability of the buyer. It is well, even where milk and cream are sold locally, to investigate the standing of customers before their accounts have run up very high. No argument is needed to show the advantage of selling dairy products direct to consumers wherever this is possible. It means the elimination of the middleman, whose profits are saved to the dairyman.—U.

HOW TO MAKE BUTTERMILK CHEESE

The making of buttermilk cheese in small quantities for family use, or for sale, is an easy matter, requiring little time or labor, and only ordinary kitchen utensils. The cheese has a fine buttermilk flavor, and is always soft and smooth in texture. It is a sanitary and wholesome product. In making the cheese only pure buttermilk is used.

As soon as the churning process is finished the buttermilk is drawn from the churn into a large tin pan, or granite-covered metal kettle, or a clean new tin wash-boiler, kept especially for the purpose of making cheese. It is then set on the stove. When fire is needed for preparing the next meal the buttermilk is heated, with occasional stirring, until it is scalding hot. If a dairy thermometer is at hand it is better to use it, and heat the buttermilk to a temperature of about 130 to 140 degrees.

It is then removed from the stove, covered, and left standing for about an hour. During this time the curd of the buttermilk separates from the whey and rises to the top of the liquid in a compact floating mass. This curd is used in making the cheese, and the

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Makes and contains its own heat. Works while it's heating—heats while it's working. **SAVES MILES OF STEPS.** Economical—**SAFE**—Convenient. Used anywhere, any room, on porch or under shade tree. Clothes ironed better in half the time. No waiting, stopping to change irons. **Right Size. Right Shape. Right Weight.** Neat, durable, compact. No tanks, no fittings standing out at back or side to bother. No wires, hose. Unlike any other. **Cheap Fuel—1c. Does Ordinary Ironing.** Price low. Sent anywhere. Write today for **30 DAYS FREE TRIAL** offer. Not sold in stores. **Guaranteed.** Send no money—only name and address.

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Quick—Sure—Easy. All year business. **Sells Itself.** Experience unnecessary. Every home a prospect. All can afford. Even 2 or 3 sales a day gives $27 to $40 a week profit. **Easy** to sell 6 to 12 a day. Write today for description, money making plans and how to get FREE Sample.

C. BROWN MFG. CO. 4587 Brown Bldg. Cincinnati, O.

whey is as good for feeding pigs as most cheese factory whey.

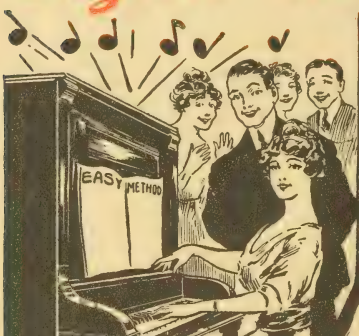
If only one or two gallons of buttermilk are being used the curd can easily be collected by pouring the entire lot of material into a cheesecloth bag, when the whey will run through at once, and the curd will be saved. Where larger amounts of buttermilk are handled at one time it is not so easy to pour it out, but the curd can be taken off the top of the liquid with a skimmer and laid on the cloth to drain.

It is easy to determine the proper consistency for buttermilk cheese. It should not be salted while it is so wet that it will run like hot porridge, but should be drained dry enough so that it can be molded with a spoon, and will keep its shape like a dish of jelly or ice cream. If made too dry it can be moistened with a little water.

It is not necessary to add milk or cream to buttermilk cheese to improve its flavor, as is often done with skim-milk cottage cheese. In salting buttermilk cheese it is better not to guess at the amount of salt used, but weigh the cheese in the cloth, and then weigh out the salt in the proportion of one ounce of salt to five pounds of cheese.

It can be put in one-pound balls or cakes, and placed on sale, in grocery stores, or grocers will buy it in bulk and weigh it out in paper oyster pails for consumers. When shipped to city markets it is best packed in parafined tubs, like butter. The cheese can also be sold readily with other farm produce to consumers in local markets. Buttermilk cheese is used in the household on the table, and also by bakers, many of whom prefer it to cottage cheese for making cheese cakes.—U.

Learn to Play Piano or Organ in One Evening!



What Do You Think Of That! Never Played Before and Now Just Hear Her!

Thousands of Delighted Patrons

You Can Learn to Play Piano or Organ in One Evening at Home By NEW METHOD. Sent Absolutely FREE on a Seven-Day Trial to Prove It. We Will Teach You to Play the Piano or Organ, and Will Not Ask You One Cent Until You Can Play.

FREE

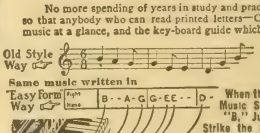
In this hurrying, busy twentieth century, people cannot afford to take several hours a day for several years in learning to play. They demand something easier, a shorter, simpler way—and this "Easy Form" Music Method is the result. Any person of ordinary intelligence can now sit right down and play, without any lessons, practice or special training. Just read the simple directions, turn to the selection you most fancy in the big volume of music, and **PLAY** it.

Any Child Can Play at Once

The "Easy Form" way is simplicity itself. No puzzling marks to study out, no mystic symbols and Chinese-looking characters to confuse you. With this new method you don't have to know one note from another, yet in a single evening you can play your favorite music with all the fingers of both hands, and play it well. It's so simple that it might justly be called

Shorthand In Music

No more spending of years in study and practice. Why? Because music has now been simplified so that anybody who can read printed letters—C-D-E-F-G-A-B-C—can read the new "Easy Form" music at a glance, and the key-board guide which is placed behind the keys shows you where to put the fingers of both hands on the right keys every time. No chance for failure, anyone can learn quickly. Young children and old people learn to play in a few hours and amaze and delight their friends.



Note how simple this is compared to the complicated old style music, where a beginner couldn't even find the right key.

You don't have to take anybody's word for "Easy Form," either. We think the best way to prove it is to let you, **yourself**, be the judge. You **can't** doubt its value when you have learned to play by this method in a single evening. Therefore, we have decided to show **our** faith in "Easy Form" by sending the complete system—full instructions—100 pieces of standard music (all the favorites) and keyboard guide — upon receipt of the coupon, without asking for a cent of money.

We have thousands of letters like the ones printed below, telling how quickly and easily people who didn't know one note from another learned to play by the "Easy Form" Music Method. It is so simple that there is no chance for mistake or failure—and the trial is absolutely FREE.

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I found your "Easy Form" just as you said. I think it is great and much easier than I thought. I do not doubt a firm when they will send their goods before they get their money.
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I like the book and system very much. My little granddaughter, age 10 years old, plays for our district school. From the same book.
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I have had "Easy Form" **one week and can play any piece in the book, correctly.** I am very much pleased with it.
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Have had "Easy Form" four weeks and was out of town one week. I practice about fifteen minutes daily, and can play several pieces as good as my sister-in-law, who has taken lessons seven years.
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1620 4th Ave., N., Mason City, Iowa.

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If I could not use the "Easy Form" method I would be ashamed to say so. It is very simple and easy to understand. I learned it in three hours. I am 75 years old, and never tried to play on the piano or organ, and did not know where middle C was until I got your easy method. Yes, anyone can learn to play by it.
REV. G. D. KING, Pastor, Christian Church, Porterville, Cal.

Send No Money We don't want your money until you have given "Easy Form" a trial and concluded that you **want** to buy it. Keep the system for seven days, test it, see how easily it is to play. Then if you can bear to part with it, return it in seven days and owe us nothing. If you want to keep it (as you will) it will only be necessary to send us $1.50 at once. The balance may be paid in small monthly payments until the total price of $6.50 is paid. Remember, **you** are the judge. If you don't **want** to buy the "Easy Form" system after using it for seven days, you will not be at even a penny's expense. But don't delay. Send the coupon now—**today**—while this remarkable offer remains open.

Free Trial Coupon

Easy Method Music Co.,
768 Clarkson Bldg., Chicago

Please send me the "Easy Form" Music Method complete, with 100 pieces of music, by mail postpaid, for a seven-day FREE TRIAL. If I am satisfied and want to keep the system, I agree to send you $1.50 at the end of the trial period and $1.00 per month thereafter, until a total of $6.50 is paid. If not satisfied, I will return the system to you, and I am to be at no expense whatever for the trial.

Name .....

Street and No. } .....
or R. F. D. }

Town ..... State .....

Do you play old-style note music? .....

How many white keys on your piano or organ? .....

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Make Big Money During SPARE TIME

Something Different, bigger, more liberal than any offer ever made. Lower prices—better clothes—bigger cash profits Express paid on everything.

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Burns Kerosene. Can't explode. Can't set fire to anything. Burns in all kinds of weather. Rain proof, wind proof, bug proof. For farmers, teamsters, hucksters, plumbers, dairymen, campers—everybody needs it.

Big spare time money maker

Night time best time to demonstrate. Jennings sold 5 first evening. Your territory open. Write quick for terms and free sample.

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Chicago New York San Francisco

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Joy Rides and Business

(Continued from Page 7)

risk of satisfaction, as he properly should.

The decision what car to buy rests largely upon the amount you wish to spend. For less than $500 you can get a modest car with a moderate upkeep that will go anywhere the expensive cars will go. For $1,200 to $1,500 you can get a peach of a car that will be a source of pride, and give you that satisfied feeling that you belong to the "somebodies." The more expensive machines are in the same class as a handsome residence or a pedigreed horse—meant for the well-to-do, who have the money and aren't afraid to spend it for what they want.

Travel is a great educator. A man can learn more about history, geography, architecture, agriculture and human nature by little journeys from Here to There than he can by burning the midnight oil over many a quaint and curious volume of forgotten lore.

"Commerce," declares Emerson, "is carrying things from where they are plentiful to where they are needed." Efficiency is doing things right in the shortest possible time. As an efficient medium of commerce the auto seems to be about the greatest blessing to human farmers that has recently come down the Pike.

Banker-Farmer (less) Conference

(Continued from Page 3)

it of short-time occupancy? It seems to me there are things here for the farmer to think about.

Finally—although I could write much more about this interesting meeting—of representative financiers and what they are trying to do for, if not to, the farmer—I want to pass this on to my brother of the plow: there is no longer "the business man" and "the farmer." There is no natural distinction in the use of the word "business." It is no longer correct to speak of the "business farmer." The farmer is just naturally a business man. He may be a successful one or he may be a fizzle, but most certainly he has got to engraft the principles and practices of modern business on his farm operations if he is ever going to stand up and say: "See here, Mr. Banker, you are a good fellow and I like you. I want to see you succeed, and if there is anything I can do to help you let me know. Now for example—" and right here Mr. Sixper-cent gets his in the form of some advice on running a bank, not for the selfish benefit of the stockholders, but as a public institution for the best interests of the entire community.

If there be any who wish to read in detail of the things said and done at the Banker-Farmer Conference, he can get a copy of the proceedings free by sending a request to Chairman B. F. Harris, Champaign, Ills.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

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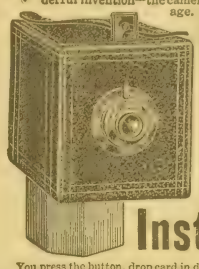
Only 10,000 of these marvelous, instantaneous picture-taking and making cameras to be sent out absolutely on a approval without a penny in advance just to prove that it is the most wonderful invention—the camera sensation of the age. So you must send for it quick! Just think of it—the new Mandel-ette



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Not a bit of the muss and bother of the ordinary kodak or camera. It is instantaneous photography. Universal focus lens produces sharp pictures at all distances. Pictures develop and print automatically. Can't overdevelop; results simply amazing.

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No red tape of any kind. Monthly payments so small you'll not notice them. Lots of fun and big profits.

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Plain instructions and everything com te with outfit so you can begin taking pictures the moment it arrives. We guarantee that even a child can operate it. Mail coupon right now. No risk or obligation to keep camera.

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Name.....

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A Leatherette covered camera and complete outfit of plates, paper, chemicals, etc., with complete instructions so any boy or girl can take GOOD PICTURES of Landscapes, Buildings, Friends, etc. No dark room required. No printing. Pictures taken and finished in 2 minutes. Send us your's subscription to our magazine at 25c and 5c extra for postage and we will send camera and outfit free. Offer made to introduce.

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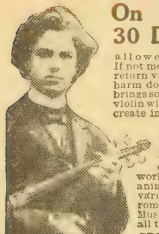

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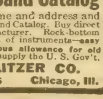

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7328—Ladies' Shirt-Waist—The collar can be buttoned high or rolled in low outline. The sleeves may be either long or short. Collar and cuffs are of contrasting material. Sizes 34 to 46 inches bust measure. Price, 10 cents.

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7316—Ladies' Apron—Linen, gingham or calico can be used for this apron with the collar, belt and edges of sleeves of contrasting material. The apron covers the entire dress and slips on over the head. Sizes 36, 40 and 44 inches bust measure. Price, 10 cents.

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FARM NEWS

Vol. XXXIV No. 8

Published monthly at Springfield, Ohio, by the

SIMMONS PUBLISHING CO.
Matthew C. Young, President

Entered at the Springfield, Ohio, Post Office as second-class mail matter. The subscription price of Farm News is 25 cents for one year; three years for 50 cents. Subscribers desiring change of address should give old address as well as new one.

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Do Business *direct* with the leading bicycle house in America. Do not buy until you *know* what we can do for you. WRITE TO US.

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Shoots 20 times without reloading. Uses ordinary B. B. Shot. Fine blue steel finish, looks like a regular Automatic. Send your name and will send 4 sets of pictures to dispose of on 25c offer. Send $1 you collect and pistol is yours as reward. M. O. SEITZ, 8P43 CHICAGO

POWERFUL AIR RIFLE FREE

Length 31 1-2 inches. Working parts of the best grades of steel. Lever action, shooting barrel removable. Use shot or darts. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one to try, as we take back those you can't dispose of. Send us your name and address. M. O. Seitz, 18D43 Chicago

AT COSTS YOU NOTHING

F MILE FAR

Win a $275 Motorcycle FREE

Solve This Puzzle. Can you arrange the letters, shown on the sign board, so as to form the name of a well known farm paper? Send in your answer, with your name and address, at once. You will then be entitled to be considered in the awarding of the $275.00 Motorcycle and other Grand Prizes which we will give away FREE on Oct. 20, 1915. If your answer is correct we will also send you 1,000 Votes toward the Motorcycle and other Grand Prizes. In case of tie, each tying contestant gets a prize same as one tied for. Whether you win Motorcycle or not, if you take part in contest you get a Valuable Prize and Cash Reward for Everything You Do. Send name, address and puzzle solution.

FARM LIFE, DEPT. B22, SPENCER, INDIANA

SOLO GUITAR FREE

American manufacture, well and carefully made, cherry finish, richly ornamented. All strung with 6 strings, has clear, rich tone, easy hold, durable and satisfactory. We give this fine instrument free to any boy or girl who will dispose of 8 sets at 25c a set on our special offer and send us the $2 collected. Send name and will send pictures at once. M. O. SEITZ, 8Z43, Chicago, Ill.

20-SHOT PISTOL

SHOOTS B.B. SHOT 20 TIMES WITHOUT RELOADING

Looks like a regular automatic. Gun metal finish—well made—will last a lifetime. Shoots accurately and to the mark. For indoor or outdoor target practice. More fun with this, boys, than anything else you ever owned. Send quick. Surprise the boys in your home town.

Free Offer to Boys Send 25c for a year's subscription to our magazine and names of 5 boy friends, and we will send this 20-shot pistol to you free. This offer is made to introduce

EVERYDAY LIFE, A P 43, CHICAGO

$1,635,000 Hidden

In This Year's Goodyear Tires

Not an Excuse

Let us first explain that this is not an excuse for over-price. Our this year's price reduction—made February 1—will save Goodyear users about five million dollars this year.

And that was our third reduction in two years, totaling 45 per cent. Our matchless output gives you in Goodyears a value never before known in tires.

Goodyear Extras

Goodyear Fortified Tires have five costly features found in no other tire. They combat your five major troubles in better ways than anyone else attempts.

These tires, in addition, have other features not commonly employed.

If we omitted those extras, this year's probable output would cost us $1,635,000 less. That is, we could add to our profits about $5450 per day.

Most of these extras are hidden. Tires that lack them look as strong as Goodyears. And you would never know it, save by months of use, if we left them out.

$500,000 Added

This year's improvements—just our latest additions—cost us $500,000 yearly. Most of it goes into extra rubber—all into extra wear.

And this much is added—this half million dollars—at a time when we save users five million dollars in price. At a time when some makers are skimping to meet competition.

Then our Research Department—to find more betterments still—will cost us $100,000.

Yours for the Asking

These extras are yours for the asking. Tires without them will be offered so long as you will buy them. But any dealer, if you ask him, will supply you Goodyear tires.

Goodyear has for years outsold any other tire. It is gaining new users faster than we can supply them. And those extras did it. (2418)

GOODYEAR
AKRON, OHIO

Fortified Tires

Fortified Against
- **Rim-Cuts**—by our No-Rim-Cut feature.
- **Blowouts**—by our "On-Air" cure.
- **Loose Treads**—by many rubber rivets.
- **Insecurity**—by 126 braided piano wires.
- **Punctures and Skidding**—by our double-thick All-Weather tread.

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

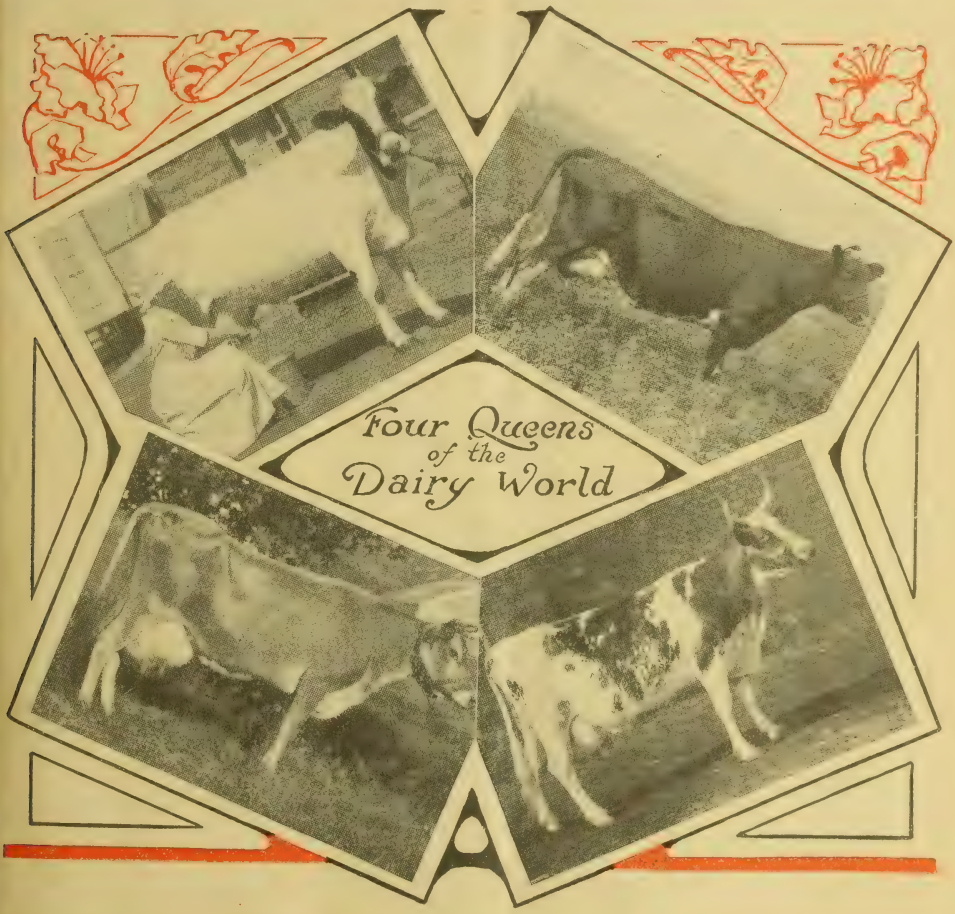
Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and other Types

OCT 28 1915

FARM NEWS

All that is New and Best for the Farmer

SEPTEMBER Springfield, Ohio 1915



In This Number: Succulency For the Winter Ration, "Dobbin" and "Barney" vs. Farm Truck, A Real Farm Specialist, Co-operation's Obstacle

With the Editor

The Pennsylvania railroad lines east of Pittsburg carried more than 265,000,000 passengers in the past two years and a half without having a single passenger killed in a train accident.

A silo that has smooth inside walls, is airtight, and is strong enough to withstand the pressure of the silage, will be successful, regardless of the material of which it is built.

Phylloxera is the name of an immigrant insect which has destroyed 200,000 acres of vineyards planted with European vines in California. Agricultural authorities advise growing the European varieties of vines on native stock known to be resistant to the ravages of the insect.

Here's a valuable pointer about the selection of crimson-clover seed of high-germinating power: Seed of a bright yellowish-green color usually germinates well, while that showing a brownish color indicates poor germinating qualities.

With the great increase in farmland values, and a consequent increase in rents, it is obvious that every farmer must make each acre earn more than under the old valuation. The old methods applied to cheap lands will not turn the tide of financial return to the right side of the ledger. Right now every farmer is brought face-to-face with the question, "Maximum Yields or Maximum Profits?" This requires close study, and should take into consideration soil conditions, use of fertilizers, marketing facilities, labor, equipment, value of land, or its equivalent in rent, the size of your family and your credit at the bank.

The largest tree in the United States is said to be the "Mother of the Forest," a giant redwood tree in California. It is supposed to contain 140,619 board feet of lumber.

How to make the farm home just as nice as can be without rebuilding or incurring expense which is almost prohibitive, is a grave question on many farms today. Next month we are going to tell you in a specially prepared article, how this can be done, and make the folks that drive by on the road wonder when you built the new house.

Encourage the children to think for themselves. They may make numberless mistakes, but patience and good advice will soon teach them to reason out the "whys and wherefores." Don't nag them. Give them a chance to think for themselves, and you will be surprised how quickly the confidence you have in them will bring a most satisfactory response.

Late planting seems to be the most feasible method of combatting the Hessian fly. On a latitude with northern Ohio, September 15 is regarded as about the right date; with central Ohio, September 25; southern Ohio, October 5. Investigations have shown that the fly is through laying its eggs in the belts indicated at about the dates given.

Out of 29 carloads of wheat tested by a big milling firm a short time ago, one lone car stood the test. In the balance the moisture content was shown to be at the danger point. In fact, it would have been ruined had the owners attempted to store it. This condition was said to be entirely due to excessive wet weather.

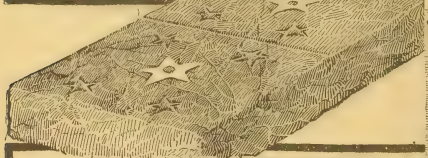
Bulletin 46 of the 1914 series, U. S. Bureau of Education, Washington, D. C., "School Savings Banks," is invaluable in teaching thrift to school children. A postal to the above address will bring it to anyone interested.

The latest crop estimate given out by the U. S. Department of Agriculture places winter wheat at 659,000,000 bushels, and spring wheat at 307,000,000 bushels. Many of our foremost farmers, men who watch conditions closely, are of the opinion that the government agents have erred about thirty per cent.

Under a publicity campaign outlined by the U. S. Department of Agriculture, every postoffice in the "tick-infested" country will soon be ornamented with a big poster in two colors, showing in big letters the words, "Dip the Tick." This campaign will be carried on extensively throughout the South, and was suggested by the success of the "swat-the-fly" campaign.

Don't worry! The extra supply of silage left over from the winter's feeding will not spoil during the summer in the average well-built, well-filled silo. In case of doubt, cover what silage remains with straw, hay or barn sweepings, tramp down hard and dampen thoroughly. At corn harvest remove the covering and fill as usual. You'll never know the difference. But better than all this, supplement your pastures with silage during the dry spell

The Highest Possible Award
The Grand Prize
for
STAR Tobacco



LEADING BRAND OF THE WORLD

PANAMA PACIFIC INTERNATIONAL EXPOSITION
GRAND PRIZE

Awarded to
Liggett & Myers Tobacco Co.
for
STAR
CHEWING TOBACCO
BY THE
PANAMA PACIFIC
INTERNATIONAL
EXPOSITION
SAN FRANCISCO
1915

The Only Chewing Tobacco
That Ever Won
An International Exposition
Grand Prize

THE one supreme chewing tobacco at the San Francisco Exposition was STAR. So decided the International Jury of Award, selected from all parts of the world.

As the result of that decision, STAR received The Grand Prize—the highest award that the International Jury could give.

The same "superior quality" that won the Grand Prize for STAR, had won for it the highest regard of chewers for half a century.

STAR'S extra quality of mellow chewing leaf, STAR'S absolute cleanliness of manufacture, STAR'S full "one pound to the plug" weight, and reasonable price, long ago made it the world's largest selling brand of plug chewing tobacco.

10c Cuts
16 oz. Plugs

Liggett & Myers Tobacco Co.

"Men Who Chew Are Men Who DO"

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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SPRINGFIELD, OHIO

[MATTHEW C. YOUNG, PRESIDENT

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXIV — SEPTEMBER, 1915 — Number 9

DEMANDS OF THE FARMER MUST BE MET

"Service" and "Show-Me" Have Been Added to His Progressive Policy

THE DEMAND FOR SERVICE

"Service" is a word used frequently in modern commercial life, and it has a meaning which covers nearly every operation in the manufacturing and commercial world. It can be summed up in the single phrase: "Careful and prompt attention to customers' needs."

The demand for service is insistent, and the man or firm who does not give adequate service has failure written in large letters in his path at the next crossroad. The farmer is also beginning to demand service of the people who supply his wants. It is not enough that they furnish him with a machine which will do the work, but they must also make it convenient for him to get repairs in a hurry. He must also be assured that the firm of whom he purchases his implements will continue in business during the life of the machine.

Then, there is the question of expert assistance when anything out of the ordinary goes wrong. In former times, if a binder went wrong, the farmer had to wait until his local dealer wired the manufacturer to send a man, perhaps several hundred miles, to straighten things out. Now, under the efficient organizations maintained, the man can be had almost at once. That's SERVICE, and it means dollars at a critical time in the farmer's short harvest time.

"Service" is one of the things any farmer wants to take into serious consideration before buying any product. No matter how cheap the initial cost may be, unless there is added to its value the item of satisfactory service, it is liable to prove an expensive investment.

ATTENDING DEMONSTRATIONS

The "show-me" tendency of the age has become so pronounced that in nearly every branch of manufacture of merit there is being conducted practical demonstrations. No man, no matter how busy or how far he has to go, within reason, should miss the demonstration of any implement of operation affecting his business.

In fact, it is the busy man who always finds time to attend these demonstrations. It is also the busy man who makes the money. No man is so busy that he cannot afford to take the time necessary to watch the operation of an implement which gives promise of effecting an economy in his business. The recent tractor demonstration at Fremont, Nebraska, was attended for one whole week by farmers in that section. Big owners, and little owners with ambitions to become big owners, were there, and they found what was most suited to their conditions.

The interest at Fremont was so great that tractor demonstrations will be held in many parts of the country this fall, and, if a tractor can be used with any degree of economy on the farm, Mr. Farmer, it is up to you to be on hand to see the things work. Champaign, Illinois, also had a tractor demonstration the latter part of August. These demonstrations are educational, and you have the advantages of seeing them at work, as well as the benefit of competition.

MISSING WORD CONTEST

Valuable Prizes — Free to All

In this issue of Farm News, we have purposely omitted certain words. Can you find the advertisements from which the words were omitted, and supply the correct words? It should not be hard to do. Any one who can read can win one of these handsome prizes:

YOUR CHOICE OF PRIZES

If you can find the advertisement from which the words were omitted, and supply the correct words, you may have your choice of a Beautiful Fountain Pen, or Six Handsome Pictures, in colors, reproductions of the world's famous paintings, originally costing thousands of dollars. It costs you nothing to enter. The contest is Free to all readers of Farm News. The contest closes September 25. The correct answer will be published in the November issue of Farm News. Send answer to Missing Word Contest, Farm News, Springfield, Ohio.

RURAL HEALTH

One of the staggering features about health statistics is the alarming number of deaths from tuberculosis in rural communities—including small towns, essentially rural in their habits and environment. And this, too, right out in the open—where the air, pure and wholesome, is as free as it is said to be. Fresh air and good nourishing food are the two most effective agents in combatting consumption. And yet houses are kept closed, no ventilation allowed, no sunlight admitted—all because of a mistaken idea that too much air is dangerous to patients with this disease. Drafts are dangerous, but fresh air is of great curative power.

Underfed babies also abound in rural communities. This is not because of lack of material, but rather because the mothers are not posted upon the best foods for infants. Thirty-five per cent of infant deaths in one rural community was caused by insufficient food. Literally starved to death, and right in the midst of the nation's food supply. Can't these conditions be improved? Life is too precious to be wasted through ignorance or negligence.

BETTER WORK ON FEWER ACRES

The most practical method for the farmer to adopt to increase his profits is, not to increase his acres, but to do better work on the acres he already controls. When an acre is made to double its product, the acres are doubled in a figurative sense, but the investment and care have not increased in the same ratio. A farmer may, by hard work and economy, make a living by raising ten bushels of wheat, twenty-five or thirty bushels of corn and fifty bushels of potatoes to the acre. Twice the number of acres with the same production will not much increase his profit, but will double his work and worry and investment. But twice the yield to the acre will mean more than five times the other profit, with but little more work and investment. There is a vast army of earnest, well-equipped workers and experimenters working all over the land with the object in view of making farming lands more productive—no other occcupation has such forces operating for it as those that operate for the farmer. But these men can accomplish no permanent results unless farmers will accept and apply the information that is secured for their benefit.

SUCCULENCY FOR THE WINTER RATION

The High Cost of Living for Stock Solved by Canning the Corn Crop

By W. F. Purdue

WHEN the corn has reached the three-quarters ripe stage, the stalks being still green, while the lower leaves are dry, it should be cut and put directly into the silo, for frost may come at any time, and the corn will then mature very quickly.

During a normal fall the period when corn may be cut for silage is from a week to ten days. If the corn is cut too green, and is very watery, the silage most likely will be very sour, while if the corn goes in dry it will mold, or "firefang," and the silage be greatly damaged. However, if the corn, for any reason, has become too dry, it still may be made into good silage if it is wet thoroughly when it is put into the silo. Half a barrel of water to the ordinary load of corn will not be too much if the corn is quite dry.

If the blower type of machine is being used, the water may be applied in the blower drum, and it will be evenly distributed over the silage. If a slat-carrier type of silo filler is employed, the water will have to be sprinkled over the silage inside of the silo. Water should not be added unless the silage will not keep without it.

The corn binder is a great aid in making silage, since it binds the corn into convenient bundles for handling and feeding into the cutter. It is not advisable to get too much corn cut down before filling commences, owing to the danger of rain or other unfavorable weather. Perhaps the best plan is to start the binder the day before filling time, and then keep it running while the corn is being siloed.

The most efficient power for operating the silage cutter is a steam engine of from sixteen to twenty horse-power. Although gasoline engines of large horse-power are sometimes used, the steam engine runs the cutter more steadily, and is less easily stalled in case of too much corn being fed in at a time. If sufficient power is lacking the process of filling the silo will be very slow.

A crew of from ten to fourteen men, with at least four teams and wagons, is required to fill a silo with dispatch. A system of cooperation similar to threshing "rings" can profitably be employed in neighborhoods where silos are numerous, thereby greatly reducing the cash cost of filling. In the fall, days are short, and it is often nine or ten o'clock before work can be commenced, and if each farmer fills his silo independently by hiring hands who demand a full day's wages, even though they work not more than six or seven hours, the cost of the silage will be increased considerably. Some silo "rings" own their own equipment, but since most threshermen now have silo-filling outfits it is seldom necessary for farmers to invest money in this special machinery. In any case, a part of the outfit need not consist of the thresher engine, for it is cheaper to rent this, and nearly always available in the fall.

Previous to filling a stave silo the hoops should be tightened. They should be examined after filling also, for several days, for the settling of the moist silage swells the staves, and causes great pressure on the bands, and if they are too tight they will burst. The lower hoops need careful watching.

The main thing in operating the silage cutter is to keep the knives sharp, so they will make a clean cut at every revolution. They should be kept sharp enough at all times to cut the husks on the ears. The stalks of corn ought to be fed in just as fast as the machine will take them, in order that no time may be lost. When possible, they should be fed in tassel end first; the cutter takes them better that way. The pitchers can greatly assist the feeder by pitching the bundles right end to, and pitching them steadily.

When Building the Silo—Remember

That—

Good silage can only be secured by having practically airtight silo walls;

Silage will keep better in the round silo, as the shape makes possible a more thorough packing;

Smooth and perpendicular walls, from top to bottom, prevent air pockets forming which will spoil more or less silage;

Silo walls must be strong to resist the pressure of the silage;

Durable materials are necessary to resist the decaying action of the weather, and of the silage;

The cost of maintenance can be cut down by building the silo of a material that requires little attention;

Any silo to be permanent must be fire proof;

The silo wall that will prevent freezing to the greatest extent is the most desirable.

The most desirable length to cut the corn is variously estimated, but, ordinarily, the shorter the better, since short lengths permit of a more thorough mixture of the mass and a more compact settling. The exclusion of air is also an important consideration in favor of cutting the stalks up fine. Half-inch pieces are none too short. Such pieces pack solidly, and nearly all of the silage will be eaten by the stock.

It is generally understood that there should be two or more hands inside of the silo as the filling goes on. These hands must distribute the silage evenly over the silo and tramp it firmly. A distributor should always be attached to the blower, but this will not entirely prevent some of the heavy parts of the corn from dropping almost directly down, while the husks and leaves blow to the outside wall, and if there are no hands inside to keep the silage properly scattered, the silo will fill very unevenly, the contents will settle unevenly, and cause moldy silage.

The ideal way to have the cut corn in the silo is to have all parts well mixed, the heavy chunks with the lighter stuff, so that at feeding time the animals will receive a uniform ration. The surface of the silage while the silo is being filled should be concave, low in the center and high about the sides, and should be kept firmly packed at all times, especially about the walls. When this is done the silage will not settle away from the walls, and no air can penetrate down the sides of the silo. The men in the silo have to work just the reverse to stacking hay. All things considered, they have a responsible place to fill.

There has been considerable discussion as to the amount of time to be taken in filling the silo; that is, whether the job should be completed quickly or leisurely. The settling of the silage is the greatest objection to rapid filling; the contents will sometimes settle one-third or more within a few days. If filled at intervals, the silage settles gradually, with the result that more is put in the silo. But since owners of silo-filling outfits usually contract a large number of jobs, they cannot spend too much time at one place, but must hustle the work through as quickly as possible. Thorough tramping at the time of filling will greatly lessen the later shrinkage. If the farmers of a neighborhood owned their own outfit, they could take as much time as they chose in filling their respective silos.

Once the silo is full the silage can be taken out at once for feeding purposes if desired. Usually pastures are good for a few weeks longer, and hence the silage is kept for winter use. In this case, due precaution should be taken to prevent undue decay at the top of the heap, which will occur if air is allowed to remain in contact with it. Hay or straw may be run through the silage cutter until the green corn is covered to a depth of a foot or more. This layer should be well soaked with water and then tramped solidly, and there is no reason why the entire contents of the silo should not keep in fine condition until feeding begins.

"DOBBIN" AND "BARNEY" vs. FARM TRUCK

The Farm Truck Saves Time---Time is Money ---What's the Answer?

By H. A. Bereman

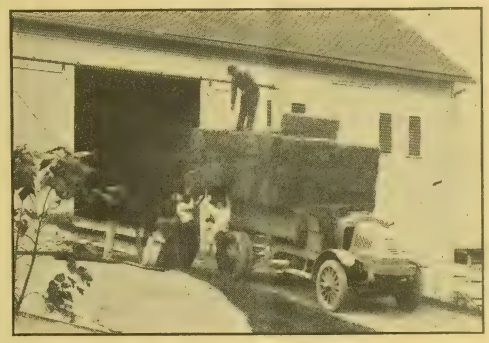
THE writer can remember when corn sold for ten cents a bushel in western Iowa, and thousands of bushels were used for fuel. At the same time there were the cities' starving poor, as usual, who would have been glad to get the food thus wasted, and there were others, not starving, who would have been glad to buy that good western corn. What was the trouble? Simply this—buyer and seller couldn't connect. There were no railroads to furnish the magic carpet that whisks things from where they are plentiful to where they are needed.

Raising hay and grain and cattle and hogs isn't over fifty-one percent of the farmer's job. Making churns and threshers and shoes and sealing wax isn't more than half of the business of the manufacturer. For of what value is anything in the world if it cannot be used? When things are merely plentiful, and not needed, they might as well not exist. So modern civilization bows to Transportation — the creator of commerce which enables the farmer to market his products and procure his supplies.

The railroads has been among the tremendous factors in settling this continent. I speak of it as an economical institution and not as a soulless corporation. I am handing no bouquets to the Napoleons of High Finance who manipulate stocks for their own profit, and sometimes wreck a perfectly good road until its right-of-way looks like two streaks of rust and a mortgage, in order that they may fatten on the spoils.

Day before yesterday the railroad was the biggest thing on the map as a common carrier of merchandise. Then some chap came along and invented the automobile. And goodness knows it was high time. Before the auto-truck was born the railroad would haul a ton of freight a hundred miles for $2.00, but it cost the farmer as much to haul it five miles on a common country road.

It takes a daring mind indeed to predict that the gasoline truck on a dirt road will some day compete with the steam driven locomotive hauling a hundred freight cars over a level track of heavy steel rails. Yet stranger things have happened. The auto-truck is the wonder of the age, because it furnishes rapid and cheap transportation where horse power was absolutely inadequate. A horse competing in efficiency with a good auto-truck has about the same chance as a man who carries his wares in baskets in competition with one who owns a horse. The chief reason is, that just as hay and grain are cheaper than meat and potatoes as producers of energy, so is petroleum a more efficient fuel than corn and oats.



HERE'S A STORY IN CONTRASTS

The upper picture shows the truck about ready to start; the lower one shows the team ready with a load of tomatoes. With an equal start, and and a haul of any distance, the chances are that the truck, on its return trip, will meet "Dobbin" and "Barney" going

But this isn't all, for a team will walk two to four miles an hour, while the gas engine will propel a loaded truck four to ten miles an hour. The auto-vehicle has no need of rest, nor sleep, nor sympathy. If its bearings are kept properly cleaned, oiled and adjusted it will run all day and all night, Sundays and holidays included. The horse will perform certain kinds of farm work that the tractor and the truck have not yet been able to negotiate with economy, but the machine outclasses the horse as a roadster and handler of freight.

With the auto have come good roads, and a promise of more to follow. This is glory enough if it never accomplished anything. For a farmer who used to drive his tired horses to town knee-deep in mud, it must be a great satisfaction to cover the distance in half the time, with double the load, over a smooth pike built with auto-license money.

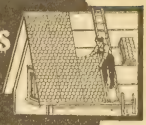
A good auto-truck has a variety of uses. Chas. Boesche, of Des Plaines, Ill., wanted to fill his silo, but couldn't get a custom rig on time to furnish the power. So he backed up his heavy auto-truck, removed one rear wheel to get it out of the way, clamped the other wheels firmly to the ground, ran a sprocket-chain from the jack-shaft of the truck to the cutting machine, and let 'er go. And she worked like a charm, too.

A similar use has been many times exacted of the automobile, for sawing wood, grinding feed, etc., it would seem to be a feature makers ought to provide for in future—that is, an easy way of using the motor of a heavy truck as a stationary engine for temporary and special needs.

The farmer's need for a small engine is fairly constant, as for pumping water, churning, separating milk, etc. His need for a high-power engine is apt to be in-

(Continued on Page 26)

An Edwards Roof Stays ON!



Costs Less

50-year-old buildings still carry their original tin-coated metal roofing, the Edward's kind. Today you can still have the same grand old quality in larger, handier sheets. Easy to lay. Hard to loosen. Proof against every weather condition.

Two Famous Features

The exclusive Interlocking Device and Tightcote process mean a tight roof and *tight-on* roof *always!* No rough edges. No exposed nail heads. Each sheet completely dipped in molten metal guarantees a durable roof under all conditions.

No Lightning Loss

And there can be no lightning loss. A $10,000 Guarantee Bond insures you against that.

All styles and sizes. Edwards' Tin-Coated Metal Roofing comes in sheets 5 to 10 feet long—24 inches wide. Goes on with hammer and nails—*then your roof is on for good!*

It will pay you to write for Bargain Catalog No. 960. Give size of roof for complete directions. Write today—now—while prices are still down.

THE EDWARDS MANUFACTURING CO.
910-960 Lock Street Cincinnati, Ohio

Make Your Own Soap at Home

FOR better, purer, whiter soap—soap that cleans with half the scrubbing and rubbing—try making your own soap at home with

Lewis'Lye

"The Standard for Over 50 Years"

Our free booklet tells you how to do it quickly, easily and economically, either with Mrs. Robinson's famous recipe or Lewis' Lye method. Book also contains recipe for ever-ready, efficient and low-price washing solution. Send for it. Address

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Manufacturing Chemists
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The Commercial Hog

Being One That Will Yield a Profit for the Feed Put Into It

By Lester J. Meredith

NO MATTER what particular breed of swine we may have, and no matter how excellent a breeding boar we may select, we can attain no marked success if we have unproductive and poorly managed brood sows. The effects of mismating are so difficult to breed out of the herd that it is of great importance that we have good sows to begin with. There is no infallible rule for selecting young sows that will prove especially good breeders, but there are numerous points which are well worth considering.

Short, straight legs, strong pasterns, a moderate amount of bone, smooth, evenly covered shoulders, a wide, deeply fleshed back, well sprung ribs, deep sides and well-rounded hams are important qualities in the market hog, and should be looked for in the brood sows. Uniformity of type is perhaps the most valuable characteristic in the sow herd. A mixed lot of uneven pigs are not pleasing to the eye nor satisfactory in the feedlot. The only basis for the selection of animals that are uniform in type is the use of well-bred sires and dams that have been bred with that object in view. This explains why we should stick close to one breed, and select breeding animals that possess these characteristics until we have established a fixed type and prepotency in our herds.

Size, quality and finish constitute a marked feature of a good brood sow. Depth of chest and abdomen are specially important. Drawn-up flanks and narrow chests are to be avoided. Clear eyes, broad forehead, clean and trim throat, moderately thin neck, smooth and deep shoulders, wide and straight back, and ample room for the vital organs provided by a good width of chest, well sprung ribs and straight, deep sides are some of the important characteristics of good brood sows. Length of body is frequently emphasized as one of the valuable characteristics of brood sows, but this does not seem to be necessary if the body is roomy, and not too much inclined to fatness. It will do no harm to select sows that are specially long, provided they have quality in proportion to their length, but it is a mistake for us to sacrifice quality, and keep a bunch of loose-jointed, long-coupled, slow-maturing sows. The influence of length of body to the sow's fecundity is by no means a settled question. One of the most sensible ways of selecting prolific sows is to keep a record of the herd, and use it as a basis of selection in determining which sows to keep over for breeding purposes.

A kind and gentle disposition is one of the most important and valuable characteristics of a brood sow. A sow that will not permit herself to be handled, that is nervous and irritable, always ready to raise a disturbance at the slightest provocation, will have a litter of pigs that will hide and squeal if any attempt is made to handle them. The gain in weight in young pigs, in proportion to food consumed, is in inverse ratio to the amount of unnecessary exercise they take, and a restless, uneasy sow with a scarey litter, always jumping out of the nest every time we go near them, will prove a poor investment as compared with a more quiet disposition and temperament.

A fallacious belief held by many hog growers is that sows that have small litters produce the best pigs. However, practical experiments have upset some of the pet theories of breeders and hog growers. The sow with vital energy to produce a large litter of well-formed pigs, if properly fed, will endow the pigs with a corresponding degree of thrift and vigor. This has been proved by continuing the observation over a longer period, where the pigs from both sows have had exactly the same food and treatment.

Whether we are to raise pigs for breeders, or to feed out on our farms, the economical management of the sow herd is of importance in determining the profits. If we can sell the young pigs for use as breeders, and secure fair prices, it will pay to make a feature of this end of the business, but as a general rule the pork grower does not care to keep his stock registered, and bother with this end of the business.

Breeding sows to farrow two litters a year, and at the right time, requires careful management. We breed our sows to farrow their first litter late in February or early in March, and plan to have the pigs weaned in time to breed them to farrow again early in September. If the sows are well fed after the pigs are born, and if the pigs are taught to eat solid food and drink milk at an early age, they can be safely taken from the sow at seven or eight weeks of age. The whole litter can be removed within four or five days.

The prolonging of the milk flow too long will make the fall litters come too late to secure a good start before the winter comes. The average sows will breed within a week after they are removed from their litters. This will bring the fall litters at about the right date. Should some of the sows fail to get with pig for a fall litter, they may be carried over and bred again for a spring litter, or fattened for market. It is our aim to keep over enough old sows, so that we can spare those that

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fail to get safely with pig at the right time.

In feeding the brood sows we plan to make use of waste food, forage and pasture crops, fallen fruits, roots and vegetables. Not that these foods are sufficient for the sow's diet, but because they furnish the needed variety, bulk and succulence. The sow is not fed for market, and is therefore only required to assimilate sufficient food to maintain her condition and produce a litter of pigs once or twice each year. A good sow should be kept several years, for there is decided economy in feeding pigs that come from well-matured sows that are in a vigorous condition at the time the pigs are farrowed.

PROFITABLE PORKERS

It is obvious that if pigs are to be matured and marketed under nine months of age, they must be kept growing and developing from start to finish. Our forefathers wasted time and feed, making their pork cost them nearly double what was necessary, by feeding their pigs when young a small amount of feed, growing them along slowly, and letting them rough it for nearly a year before they were fattened for market. That kind of growth and increase in weight is made at great expense.

A pig will make its increase in weight much cheaper while young than is possible to make it later in life. Pigs, when only a few weeks old, begin to nibble at the feed given their mother. A feeding pan or creep should then be provided for their use, so that they may eat by themselves, undisturbed by the sows. Feed twice a day just what the pigs will eat up clean of slop and some grain, gradually increasing the ration as their digestive capacity increases.

It should be the aim to keep the young animals growing steadily, as it is not economical practice to allow them to progress slowly at any time for a more or less brief period, and then try to hurry them along by more liberal feeding. It takes a large amount of feed to fill out the lines of a shoat that has been on short feed for a considerable period of time, and then get it back to a form of thrift.

Care must be taken not to over feed, however. Over feeding is just as bad as under feeding, and both are expensive. Some feeders think that they are not doing justice to their pigs unless the animals have feed to eat and as much more to run over. This is not only a waste of feed but it is ruinous to the pig's digestion. A pig, in order to do its best, and at the same time do this on the least amount of feed, or, in other words, to make its gains most economically, must never be fed more grain than it will clean up in a short time. Neither should it be fed again until the first meal has had time to digest.

TO KEEP HOGS IN A HEALTHY, GROWING CONDITION

The following mixture, recommended by Dr. W. H. Dalrymple, Professor of Veterinary Science, Louisiana State University, should be placed in every hog lot as it will help to keep the hogs free from intestinal worms and other parasites as well as supply mineral matter needed for the building of bones and other tissues:

One bushel of wood ashes.
Six bushels of corn cob charcoal or
Three bushels of common charcoal,
Eight pounds of common salt,
Two quarts of air slaked lime,
Fifty pounds of raw rock phosphate.

After these ingredients are thoroughly mixed and broken up, 1 3-4 pounds of copperas, dissolved in water, should be sprayed over the mass and thoroughly mixed with it. Any quantity may be prepared by following the proportions given. It is fed by being placed in troughs, protected from the rain.

WHERE NEIGHBORS CLUB TOGETHER

The farmer needs to be on friendly terms with his neighbors on stock delivery days. It helps out wonderfully for two or three neighbors to club together when one sells a bunch of hogs, each man furnishing a wagon and team, and assisting in the loading of the porkers. It is usually a troublesome job for one man to load a wagon with hogs, no matter how well he may be fixed for the business. Some of the hogs are bound to become excited and do everything but what is expected of them, and while the man is trying to get the stubborn animals up the chute and into the wagon some of those that have already entered are apt to break back. Besides, one man has to make two or three trips to get the entire bunch to market, thus keeping the confined shoats stirred up and in a heated condition for several hours, while, when the neighbors club together, all can be taken to market early in the day.

NO IDEA

What Caused the Trouble

"I always drank coffee with the rest of the family, for it seemed as if there was nothing for breakfast if we did not have it on the table.

"I had been troubled for some time with my heart, which did not feel right. This trouble grew worse steadily.

"Sometimes it would beat fast, and at other times very slowly, so that I would hardly be able to do work for an hour or two after breakfast, and if I walked up a hill, it gave me a severe pain.

"I had no idea of what the trouble was until a friend suggested that perhaps it might be coffee drinking. I tried leaving off the coffee and began drinking Postum. The change came quickly. I am glad to say that I am now entirely free from heart trouble and attribute the relief to leaving off coffee and the use of Postum.

"A number of my friends have abandoned coffee and have taken up Postum, which they are using steadily. There are some people that make Postum very weak and tasteless, but if made according to directions, it is a very delicious beverage." Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms:

Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly**. 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

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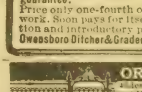

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A REAL FARM SPECIALIST

How an Ohio Man Won Success by Working the Farm From Every Angle

By L. M. Johnson

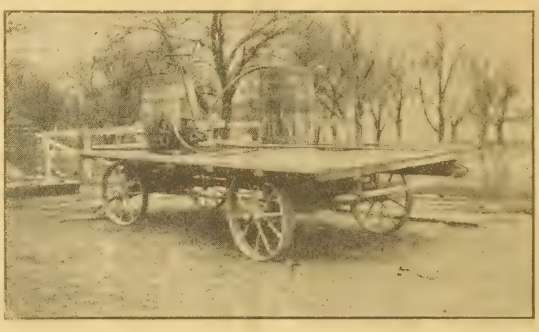
OHIO is not generally regarded as a fruit state par excellence, though it is developing certain far-seeing men who are building toward a future output of fruit which will be truly worth while from a commercial standpoint. Among these commercial-orcharding pioneers J. W. Pence of Clark county, is worthy especial mention, both because of the way he has done it and the hints which it gives to others to go and do likewise, even though harrassed by a handicap. Mr. Pence has had so much to do with run-down soil and hard work, accompanied by so-termed hardships, that he has developed a chronic spirit of optimism. Tough luck (or what people are apt to term such) does one of two things—it either takes a person and alters him into a complaining grouch, or else it develops him into a confirmed optimist, with a passion for knocking problems galley west. Mr. Pence is an optimist. The following are some of the reasons why a dynamic personality changed handicaps of soil supposedly alien to fruit raising, and lack of capital, into boosts.

"I was born and raised on a farm, married and lived on a farm, deserted the farm for city life, repented within three years, and returned to farm life. I had just enough capital to secure possession of fifty-two acres of land for which I paid sixty dollars an acre twelve years ago—I mean paid out in time—and to buy some pretty scrubby stock and a few implements. However, I was convinced that our rundown acres could be built up right on the home place. It was my part to figure how this could be done. It has taken aching muscles as well as study to do this, but it is no more than others can do under like discouraging conditions."

Mr. Pence then went on to explain, "An analysis of marketing conditions showed there was a market for milk and a crying demand for fresh home grown fruit. My farm lies two miles from a trolley line, eight from a city of twelve thousand population, and ten from the "Best 60,000 City in America," namely Springfield. I determined to specialize upon fruit.

"Peaches and blackberries were my specialties, though we, of course, have apples and other fruits for home use. All told I have seven and one-half acres of peaches. Blackberries are planted between the tree rows. I allow forty feet between the peach trees. The berry vines are four to five feet apart. I also have rows with alternate peach and apple trees each forty feet apart. These also have vines between tree rows.

"Circumstances compelling a gradual advance, my orchards were not started until a couple of years after going on the farm. The first two years of my occupancy were principally utilized in dairying, raising general crops, and working for my neighbors. I knew what my aim was, and to help get ready for it, as well as to earn needed dollars, I did all the fruit spraying I could get to do. One can secure invaluable lessons in this way—you learn the how and why of other men's successes and failures. My first spraying was done by a hand pump, using three fifty-six gallon barrels on a wagon to hold the spray material. As soon as I could afford it I bought a power spraying-pump run by a gasoline engine. It was the first in the neighborhood. This outfit is in use today. It has a one hundred and fifty pound pressure which can be adjusted into fine powdery spray or a steady centered stream. The former is usually best, as it envelops the entire foliage similar to misty rains.



If you want to spray, you'll find a way. This is the outfit Mr. Pence rigged up to do his spraying with. Any man can do as much with an equal amount of ambition

The spraying of fruit is not the whole store of successful orcharding. Spraying is a medicine, a cure for a diseased condition. There are three essentials to the successful raising of fruit—a careful and intelligent selection of stock, constant vigilance, and proper pruning, thinning and cultivation. I also think it is a good thing to aim for a succession of varieties as well as for the extremely early and late.

"In caring for my trees I heap barnyard fertilizer and five to ten pounds of phosphate to a tree each year. The ground is kept in a dust mulch, for by means of this induced capillary circulation I insure plenty of moisture for my trees. I cultivate the surface continually, plowing three to four inches deep.

It is a fight from start to finish even to hold the tree, though I sometimes think the San Jose scale is a blessing in disguise for we have to fight it, and in combatting this scourge we have eliminated the small ills which formerly kept us out of a full crop of fruit. Because the lime-sulphur spray fails so often, as it is not apt to strike every part of the trunk and limbs, and almost instantly dries where it strikes, I have made exhaustive experiments with a commercial oil preparation, and find that it is the most effective destroyer-protector I can use. Being an oil it spreads, and thus every crack and crevice is filled. I spray twice a year. First when the trees are dormant, and then just before the buds open. I spray once each time when the wind is in the southwest and then a few days later when the wind has shifted to the northeast. By doing this it makes but little extra work, and at the same time the spray solution is much more apt to reach every part of the tree.

"The blackberry vines are planted in rows six or seven feet apart in a hedge two feet wide. They are kept well cut back, and a straw mulch is piled about them. I generally buy old straw stacks for this purpose. They are carefully cultivated between rows. All old vines are taken out in winter. So far I have had no trouble whatever with diseased vines.

"I find that the Snyder blackberry will grow double the amount others will on the same amount of ground. It is a good idea for each commercial grower to have at least five varieties which bear from June to September, commencing with Early Harvest and finishing up with Taylor's Prolific.

"A splendid peach tree assortment would be Champion which ripens late in July; Crawford which is ready for use early in September; the Crosby which lasts throughout September; the Salway ripening in early October, and the Smok which is in bearing until frost. All these are popular.

(Continued on Page 22)

Goodyear Tires 30x3½ Vastly Better This Year

Also Size 30x3

Note first that Goodyears—the tires we have bettered—are the largest selling tires in the world. They have held top place for years, against all rivalry, because of super-merit.

Note that the small sizes—the sizes we mention—are called for on more cars than all other sizes together. So these small sizes must have been a great factor in our success.

So it isn't a faulty tire we are bettering, but the top-place tire of the world.

We Add $317,000

This year we are adding vastly to the size of Goodyear small tires.

In size 30x3 we've increased the air capacity 21½ per cent. In size 30x3½ we've increased it 20 per cent.

We have thickened the side walls by adding 30 per cent more rubber. That's where constant bending breaks a thin-walled tire.

We have improved the general design of the tires to increase their endurance.

The new molds alone cost us $63,000.

20% More Capacity
30% More Strength
In Side Walls

And the total cost of these extras, for this year only, is $317,000.

Much More Mileage

This extra size and extra rubber will add enormously to mileage. And it is added to these extra good tires, making them better still.

Both these sizes are four-ply tires in Goodyears. Size 30x3, as often made, is a three-ply tire. Our anti-skid tread—the Goodyear All-Weather—is double-thick in all.

And this year, remember, we made a big price reduction. That was our third reduction in two years, totaling 45 per cent. It will save our users some five million dollars this year.

Don't Take Less

You seek long mileage, less trouble, less expense. The way to get them is to get these Goodyear tires. Don't take tires with less capacity, thinner side walls or fewer plies of fabric.

Any Goodyear dealer will supply you. Every neighborhood has a Goodyear service station with your size in stock, and it renders full Goodyear service. (2593)

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CO-OPERATION'S GREATEST OBSTACLE

Seconds and Culls Must be Marketed to Bring Satisfactory Results

By W. Milton Kelly

THE greatest problem confronting individual farmers and the big co-operative selling associations today is not overproduction, but underconsumption. There is a tremendous waste of opportunity in realizing the maximum value of food products produced, and both producers and consumers are the losers.

It is easy to repeat old and timeworn truths, and blame the middlemen and transportation companies for our shortcomings, but the wide gap between the poorly paid farmer and the poorly fed city dweller can be closed only by a more complete utilization of food products. We must devise means to utilize all of the surplus products, and preserve them in an edible form, so that they may contribute toward feeding our people instead of going back to the soil.

The important point is that much of the food produced goes to waste because it is undesirable to place it on the market to compete with the better grades at the time the products are being marketed. This curtails the food supply of the country, and results in hardship to both producer and consumer.

By better systems of grading and classifying farm products, and keeping crude stuff from mingling with the choice, it is possible to obtain higher prices for the better grades of farm products. But unless means are provided for making use of the cull stuff, and making it up into finished products, there is sure to be a falling off in consumption, the same as would result if every feeder persisted in marketing his pig crop as soon as the pigs attained a weight of one hundred pounds.

Seconds and culls may be converted into firsts, when properly prepared and attractively canned. Add to this the merit of being "Fresh From the Farm" and you have an ideal combination for marketing the surplus

This is a problem that must sooner or later be met by every successful selling association. If it is successful in securing more uniform and honest grading and classification of the products it sells, it must provide means for taking care of the surplus produced by its members.

Some of the successful co-operative organizations in the far West are facing this problem and studying methods of working seconds and cull stuff into canned goods, fruit juice, evaporated fruit, apple cider; preserves and similar products. This not only enables them to secure higher prices for the firsts and seconds, but it makes it possible for the members to realize something from their inferior grades, and it preserves the surplus in a form in which it can contribute to the available food supply of the country.

Not many years ago the Chautauqua grape belt of New York produced more grapes than could be profitably marketed. Prices went so low that many growers began to tear out their vineyards and put their land to other uses. Then came the grape juice industry and this business has developed until almost one-half of the entire crop is contracted for by these factories. Thus a perishable product is made into a staple article that is used every day in the year in millions of homes throughout the world. One company purchases and presses into grape juice annually more than ten thousand tons of grapes. Other companies are building immense plants, and preparing to increase their facilities. The demand for cheap wines has been a big factor in furnishing an outlet for the inferior grades and the clusters that are injured or soiled when handled. By practicing better systems of grading, and putting only the choicest fruit into baskets intended for family use, the growers of this belt are able to dispose of their entire crop at remunerative prices.

In many of the highly specialized trucking regions in the southern and eastern states, the canning factories have proved of untold value in overcoming the disastrous effects of years of low prices and overproduction. By taking care of the surplus products, such as beans, peas, pickles, corn and the like, at times when the markets were glutted, they have enabled the growers to more than break even, besides preserving a portion of the food supply of the country until such a time as it was needed by the consumers. They have also been of great value in bringing about the standardization of varieties, for growers who sell a portion of their crop in the general market find it advantageous to grow varieties that are in demand at these factories at times when the general market is glutted with products of a similar nature.

The rapidly increasing demand for crushed fruit by the confectionery and ice cream trade has made it possible for many small-fruit growing communities to dispose of their surplus products at times when the demand for their fruit was light. The sale of the surplus berries and cherries to this trade, not only put the fruit into the market where it could not compete directly with the dessert fruit, but it has been the means of developing new regions where the industry could be made profitable.

While much has been written about the wonderful success of the apple growers in the Pacific Coast states in packing boxed apples and shipping them to the eastern markets, we are now facing a situation where apples, a fruit that is adapted to more than two-thirds of our states, are now selling for more per dozen on the city markets than oranges. And nine families out of every ten throughout the cities of the country look upon this cosmopolitan fruit as more of a luxury than an orange—and still the agricultural papers are filled with tommyrot telling growers to pack only the number one fruit in boxes, and keep the balance of the crop out of the markets.

This advice, if acted upon, would put the price of dessert apples at 50 cents per dozen, and leave more than two-thirds of the crop to rot on the ground. At the same time we would be taxed to pay experts to go about preaching to the farmers how to prune, fertilize and cultivate their orchards so as to grow bigger crops of fruit to feed our folks.

In the first place, the older and larger trees in the orchards of the eastern and middle-western states prohibit the system of thinning the fruit

(Continued on Page 27)

For Farm Women

Helpful Hints on Timely Topics

WHAT TO DO WITH SOUR CREAM

The question is often asked by women living in dairy districts, "What can be done with sour cream? We often have more than we know how to use."

It almost seems like asking what can be done with money, for cream is such a valuable food, and may be used in so many appetizing ways, that it should never be wasted.

The idea with most women is not "What can we do with it, but instead tell us some new ways of using it profitably." Many of us have used sour cream for griddle cakes, biscuits of various kinds, cakes, cookies, shortcakes, puddings, salad dressings, meat sauces, fish sauces and freezing it with fruit juices have made most delightful ice cream. And did you ever use sour cream in place of milk in preparing a white sauce for codfish? If not you have a treat in store. Do not cook the cream too long to allow it to curdle the mixture. Here are just a few recipes:

Sour Cream Cookies.—Add a cup of sugar and a cup of molasses to two cups of rich sour cream; add two well-beaten eggs, a teaspoonful of soda and one of baking powder, a tablespoonful of ginger, a dash of cinnamon and cloves and enough flour to roll. Let stand on ice to chill before rolling out.

Chocolate Cake.—Take a cupful of brown sugar, add a cupful of sour cream, a half teaspoonful of soda, one well beaten egg, a cup and a half of flour sifted with a teaspoon of baking powder. Dissolve two squares of chocolate in half a cup of boiling water and add to the cake the last thing. Flavor with vanilla and bake in two layers.

Cabbage Salad.—Shred cabbage very fine and plunge into cold water to crisp. Drain and dress with sour cream, sugar, salt, and, if not quite sour enough, a very little vinegar may be added. This is a salad which can be enjoyed at any meal with almost any combination of foods.

WAYS TO USE CHEESE

Prepared for Farm News by Nellie Maxwell, Department of Farmers' Institutes, of the University of Wisconsin.

Of all our foods, cheese is the most compact and concentrated. It contains no connective tissue, bone or waste matter. It is highly nutritive, containing twice as much food value per pound as beef steak. This same compactness which gives us a food with no waste makes it also harder of digestion unless it is eaten with coarser food which requires mastication. Cheese slips down the "little red lane" too easily, and that is the main cause of indigestion after eating cheese.

The main reason that cheese is not used as a substantial food is that we housewives are ignorant of its value and so persist in offering it in the same old "titbit" fashion.

Cheese Pudding.—Take two cupfuls of soft bread crumbs, one quart of milk, two eggs, a fourth of a teaspoonful of soda, one teaspoonful of salt, a few dashes of paprika, one tablespoonful of butter and two cupfuls of chopped cheese. Scald ten crumbs with the milk, and butter and seasoning, and combine with cheese and eggs slightly beaten. Pour into a buttered baking dish, surround with hot water and bake slowly for an hour in a moderate oven.

Scalloped Cabbage or Cauliflower and Cheese.—Take three cupfuls of cooked cabbage, one cupful of grated cheese, three cupfuls of white sauce; arrange in layers, alternating the vegetables with the sauce and cheese, and cover with buttered crumbs. Bake about thirty minutes. Potatoes, brussels sprouts and other vegetables may be used in the same way. The smallest bit of cheese should never be thrown away. It keeps best if wrapped in a cloth dampened with vinegar or covered with melted paraffin when this is practicable. Grated cheese put into a fruit jar and sealed is ready for any number of dishes which will be improved by the addition of a tablespoonful or two, even for flavor.

TO REMOVE TARNISH FROM SILVERWARE

Since the extensive introduction of aluminum ware, the housewife has consigned the silver polishing kit of grandmother's time to the scrap heap, having found that silver is more easily whitened by boiling the ware in an aluminum vessel.

As the brightening does not take place in pure water, it is necessary to add a small amount of salt or soda to the water used. The removing of the tarnish is a chemical process, and results from galvanic action.

Before cleaning, the silver and aluminum must be thoroughly cleansed of grease by the use of warm soapsuds.

A small amount of aluminum is dissolved during the process and the vessel will be darkened, though this coloration is easily removed by scouring, or by cooking fruit in the vessel.

This method of whitening silverware is accompanied by no loss of silver, and is therefore preferable to the silver-polish method, which should never be used on plated ware. Many polishes contain material detrimental to silver, and scouring will not brighten the indentations, engraving, etc., which, when free from grease, will be thoroughly whitened by this process.

Equally as good results may be obtained by boiling the silver with a piece of zinc in dilute salt water, using any available container, the only precaution necessary is that the silver must be in contact with the zinc, as is also necessary when aluminum is used. For this reason, a piece of sheet zinc large enough to nearly cover the bottom of the containing vessel is desirable.

The size of article cleaned is limited only by the depth of water. After whitening, the silver may be brightened by rubbing with a suitable cloth.—Roy G. Coffin, Colo. Ag. Coll.

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IMPORTANCE OF HAVING AN IDEAL

The person with no ideal is much like the wanderer of the highway—he has no destination other than wandering, therefore he never achieves much. The breeder of dairy cattle who will win success in his business must have an ideal ever before him. Before beginning he should make sure of what he wants. He will no doubt meet with adversity, but that is just the time a strong ideal will carry him over the rocky places.

If one with an ideal makes a mistake he will then be able to discover it, and at once rectify the same. One of the great dangers that a breeder without an ideal encounters is that he is liable to start with a certain breed, and his animals may probably not come up to his expectations. He will then drop that breed, and make a try at something else, with the result that he will not stick to any one breed long enough to make a success of it.

The man whose achievements denote success must, from the start, be steadfast, with a definite object in view. He must choose his breed, study it, study what constitutes a true type, and get firmly fixed in his mind the true type of the breed he has chosen. To win the greatest success a breeder should have his ideal stamped on his mind's eye so distinctly that he can almost see the animal in front of him.

That which we think we can reach we will reach, but without something definite in view we will certainly accomplish little.

One should be a good judge of the breed he is aiming to develop. The man beginning dairy-cattle breeding, with the idea in his mind that he can do as well as his successful predecessors, and that with no study of the breed he has chosen, will certainly reap very unsatisfactory results. He is then liable to attribute the result of his efforts to luck. There is no such thing as "luck" in either success or failure in breeding and developing any class of live stock.

A point which I wish to emphasize is in the selection of the sire. This is where we need a very high ideal. The sire stamps his characteristics on every offspring in the herd, while the dam is only influencing her own progeny.

Let me give an illustration of two breeders who started with a certain breed of cattle at practically the same time, that being about nine years ago. Both purchased some good cows. When it came to selecting the sires of the herds one breeder had an ideal, while judging from what transpired the other had none. The latter has always tried to buy his sires cheap, and as a result he has secured inferior animals. I had the opportunity last fall of attending the fair where these two breeders were in competition. I need scarcely mention the results. I have never in my experience seen a better demonstration of the weakness that goes with lack of an ideal.

The only prizes secured by the man with no ideal when selecting his sires were in the classes that the other man did not have enough animals to fill the class.

If the beginner expects his environment to be filled with an atmosphere of success, he must have an ideal first, last, and all the time. Not only is it necessary to have an ideal, but it is just as necessary to seek to attain to that ideal. One should not let the matter of a few dollars sidetrack him, especially in selecting the herd bull. It is not what we buy, but what we breed and develop that determines our destiny as a breeder. If one will form his ideals, and stick to them, his efforts are mighty certain to be crowned with success.—U.

COST OF KEEPING A COW

We cannot tell the value of a cow unless we know how much it costs to keep her. This is just as important as it is to know how much milk she gives, or, the quality of that milk. A man is liable to think that because a cow gives a large amount of milk she is the most valuable one in the herd, and yet he is not warranted in his judgment until he knows the comparative cost of keeping her.

One cow will produce more milk than another, but when we figure carefully the cost of feeding it sometimes happens that the large producer has not made us as great a net profit as some others. Some people do not like small

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cows. They say one cannot make them believe that a small cow giving a moderate flow of milk is worth as much as a large animal that gives a greater flow. This, however, is simply guessing at results, or being carried away by one's fancy.

The little cow may not produce anywhere near as much milk or butterfat as the large one, but it is quite possible that she makes us a larger profit on the investment. One of the great troubles with dairying, as with many other things connected with farming, is that we are too apt to guess at results. We do not figure carefully enough. The average man is likely to think there is too much bother connected with estimating the cost of feed for each cow for him to consider the question seriously.

I do not pretend to say that one can estimate the cost of feed within a cent or two, but he can get at it close enough to know whether or not his cows are making him a profit, and whether one animal is better than another. It is not so very much bother either. Suppose a man is feeding clover or alfalfa hay to his cows. If he feeds them carefully for several days he knows just about how much each one will eat in a day. He feeds about the same amount after he learns how much the cow needs, and he knows that one cow needs considerably more feed than another.

Now, when this has been determined, weigh what one cow eats in a day, and multiply this by the number of days that she is fed clover or alfalfa hay. That will give approximately the amount of hay the cow eats. It is the same with the grain ration. It is not necessary to weigh the grain at every feed, when as nearly the same amount as possible is fed every time. Weigh it once, and then multiply by the number of times the feeding is done. If the ration is changed the estimate must be made again. In this way, with very little trouble, one can get an idea of the cost of feeding each cow.

Then, if the milk has been weighed and tested for butter-fat, one has data whereby he can distinguish between the poor and the good cows, between those which have brought a profit and those which have made a loss. I figure that $60 will feed a cow producing 10,000 pounds of milk for one year. The feeds that grow on my farm are alfalfa, clover, silage and oats. The feeds that I buy are oilmeal, cottonseed meal or gluten meal, and bran.

In arriving at my cost of $60 per cow a year I figure the feeds grown on my farm at their full market value. I value the silage in accordance with its feeding value as compared with purchased feeds. My cows yield an average profit of $40 a year. I know that some cows yield better than this, but the great majority of cow owners do not get this amount of profit because their cows are not good enough, and of course they cannot afford to feed $60 worth of food stuffs in a year. So the first essential in profitable dairying is good cows.

A cow that will yield 10,000 pounds of milk in a year is a good one, and she must be well fed. When I commenced to keep cows several years ago, I did not feed as well as I do now. I have been paying close attention to the feed bills since, and while I do not claim that my methods are absolutely correct, I am thoroughly convinced that good feeding pays big. I have found that the nearer I feed a cow to her full capacity the less energy she will waste, for when she gets full she will lie down and chew her cud in contentment. As to what a maintenance ration would cost I am not at all sure about that.

If I had a cow that I intended to keep for ten years without milking or fattening her, I should judge her annual cost would be about $25, to say nothing of her care. For ten years this would amount to about $250, in addition to the work of caring for her during this period. Suppose we add $15 worth of feed to the $25 estimate. The cow would probably pay for her keep, and perhaps she would return a little profit besides. For that extra $15 she would produce about $35 worth of milk.

So far we have but little if any profit for ourselves. We must get the profit by adding more expense. It comes from what the cow can consume over and above her maintenance. Suppose we add to her maintenance ration $25 worth of feed. A well-bred dairy cow will return for that extra $25, $50 to $60 worth of milk. If we add $10 worth more feed we will get more milk in proportion. Hence with good cows more feed means more milk, and more milk means more money to add to our bank account.—U.

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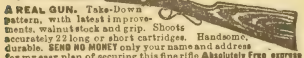

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Feed for Production—Sort for Market

Important Points in Producing and Marketing the Egg Crop

ONE of the factors which determine egg production, is the feed ration —not merely the quantity of feed given, but the elements contained therein.

Many questions are asked as to what a balanced ration for egg production is, and how to balance the ration. In order to determine more fully the effect of certain rations, a number of experiments are in progress at the Missouri Station. Each pen contains twenty hens.

The test with a wide ration, containing elements which would produce three yolks for each white, laid 379 eggs in the first six months.

The test with a narrow ration, containing elements which would produce two whites to each yolk, produced 269 eggs.

The test with a ration containing equal yolk and white material, but without minerals to produce the shell, produced 161 eggs.

The test where the ration contained elements necessary to produce equally all parts of the egg, produced 1603 eggs in the same time. This ration is called a balanced ration for egg production.

The yolk is principally carbohydrates; the white, protein, and the shell, minerals. Thus the three parts of the egg are made from three kinds of food.

The following ration is fairly well balanced for egg production. Instead of using the terms "carbohydrates" and "protein," the terms "yolks" and "whites" have been used. All fractions are omitted, therefore the table is only approximately correct.

Grain		Yolks	Whites
Cracked corn	150 lbs.	382	198
Wheat	150 lbs	365	273
Mash			
Wheat Bran	20 lbs.	31	41
Middlings	20 lbs.	41	44
Corn Meal	20 lbs.	52	27
Ground Oats	20 lbs.	39	31
Gluten Meal	20 lbs.	46	86
Beef Scraps	30 lbs.	32	332
Alfalfa Meal	5 lbs.	7	9
O P Oil Meal.....	5 lbs.	8	25
	440 lbs.	1003	1066

The hens had access to oyster shell and grit, and were given two pounds of fine table salt and four pounds of fine charcoal in the above mash.

The basis for computing the number of yolks and whites produced by each kind of feed was that one pound of carbohydrates would produce 3 1-3 yolks; one pound of protein would produce 16 2-3 whites, this being the rate of the average hen at the Station.

It will be seen that from 150 lbs. of corn, 382 yolks and 198 whites are produced, therefore, it is not a balanced ration. The extra yolks are built into fat. In this way, hens fed on corn alone get extra fat, and we hear the old expression that the "hen is too fat to lay." The expression should be changed to read, "The hen can't lay is the reason she gets too fat."

A simple ration may be made as follows:

	Yolks	Whites
150 lbs. Cracked corn....	382	198
150 lbs. wheat	365	273
25 lbs. beef scraps	25	275
	772	746

This ration would give best results where the hens have free range, because it contains no mash, thus requiring the hen to do the grinding of the food. The kind of food she gets on the range should be considered, however.

If a hen has the ability to produce 24 eggs in one month when fed a balanced ration, but is fed an unbalanced ration like corn alone, which produced two yolks for each white, instead of making 48 yolks in order to produce 24 eggs, she makes only the 24 yolks, but can complete only twelve eggs. The same thing is true of the whites. It is the same proposition of "no chain being stronger than its weakest link." No hen will lay more eggs than the weakest part of the feed ration.

SOUR MILK IN THE CHICKEN'S RATION

Sour milk is recognized among progressive poultrymen as being a most important food material. Aside from the food value, it has the merit of being a pronounced aid in digestion, and so allows the consumption of more feed, with a consequent gain in general condition. A dry mash, in hoppers which will prevent waste, should be before the chickens at all times. This mash may be composed of equal parts of bran, ground oats, flour middlings, cornmeal and beef scrap. If sour milk is available in sufficient quantity the beef scrap may be reduced one-half, or left out altogether.

WATCH FOR RED MITES

The roosting houses should be constantly watched for the appearance of red mites. They creep in quietly and multiply very rapidly, sometimes becoming decidedly troublesome to the chicks before they are noticed. A thorough spraying of the whole inside of the house with one cupful of crude carbolic acid in five gallons of whitewash will kill the mites and keep the house sweet and clean. Many of the coal-tar commercial preparations on the market may be used for this purpose with great satisfaction.

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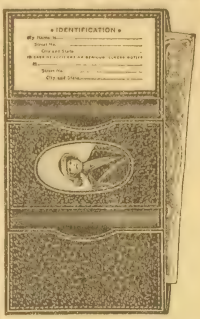

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Send all orders for patterns to FARM NEWS, Pattern Department, Springfield, Ohio.

Description of Patterns Shown Above

7361—Ladies' Waist—Sizes, 34 to 44 inches bust measure. Waist has high collar formed of a continuation of fronts, back and ends of the raglan sleeves. Fronts are full and back plain. Price, 10 cents.

7392—Boys' Suit—Sizes, 2, 4, 6 and 8 years. Has plain waist, closing in front in coat fashion; high neck finished with round collar; long sleeves trimmed with band cuff; a suspender trimming which may be used or omitted. Price, 10 cents.

7359—Misses' Dress—Sizes, 14, 16, 18 and 20 years. Raglan sleeve of dress makes a small shoulder yoke to which fronts and back, both gathered, are attached. Skirt has two pieces and closes at left side. Price, 10 cents.

7360—Misses' Coat—Sizes, 14, 16, 18 and 20 years. May be either full length or three-quarter, but not short. Has fronts shaped to give effect of a wide armhole by the adjustment of the short side pieces. Price, 10 cents.

7345—Boys' Dress—Sizes, 1, 2 and 3 years. Cut in sacque style, only a belt marking the waistline. Closing is in front, neck high with flat collar. Price, 10 cents.

7376—Boys' Blouse—Sizes, 4, 6, 8, 10, 12 and 14 years. May be made as either short blouse gathered at the waist on an elastic or tape or else with shirt tails which are tucked into the trousers. Price, 10 cents.

7378—Ladies' Dress—Sizes, 34 to 46 inches bust measure. Plain blouse has a narrow vest and a pointed collar in the back with revers in front. The sleeves may be long or short. Price, 10 cents.

7371—Child's Dress—Sizes, 4, 6, 8, 10 and 12 years. Sacque cut very long shoulder, and sleeve either short or long. There is a front panel, and the lower edge has considerable flare. Price, 10 cents.

7351—Ladies' Two-Gore Skirt—Sizes, 22 to 32 inches waist measure. Of decidedly circular cut, made with a seam in front and in back. Lower edge measures 2 ¾ yards in medium size, and the upper part is tight-fitting. Price, 10 cents.

7370—Girls' Dress—Sizes, 6, 8, 10, 12 and 14 years. School dress of wash material, or of serge, cashmere or velveteen. Blouse closes in front with flat collar, and the long sleeves may end at the wrist or may be made shorter. Price, 10 cents.

7367—Ladies' Dress—Sizes, 34 to 46 inches bust measure. Has the fullness of the front arranged in pleats at each shoulder. There is also a small, full chemisette which may be used or omitted. The four-gore skirt has panel front and back. Price, 10 cents.

Ornamental Shrubbery

Every Farm Home Should Have Some Effective Planting

If I were starting a new farm this fall, one of the first matters to receive attention would be the laying out of the house grounds for planting. That is ornamental planting. By farm I mean the average rural homestead with average conditions, not a country place of one who can have his grounds landscaped, and employ a trained gardener. A farm where one man does the field work, keeps up the fences, is his own carpenter for all small jobs, cares for the stock and fruit, milks and cuts the wood.

Clearly under such a daily program there is scant time for beautifying the premises, and in a majority of cases the supplying of water must also be considered. So whatever shrubbery and flowers are used should be of kinds that require little care after planting, and hardy enough to flourish with the ordinary rainfall.

For borders, peonies, narcissus, jonquils, bleeding heart, tulips and nasturtiums would make a good beginning. All of these, except the nasturtiums, are perennials, and, save the tulips, are not attractive to moles and chickens. For shrubbery I should want a purple lilac, a syringa, spiraea and snowball with a wisteria and honeysuckle for vines.

But these few, if bought, would cost several dollars. Happily there is a kindly custom among country people of dividing their flowers, so that probably half this number could be had with only the labor of replanting. The snowball, peonies and bleeding heart at our little farm home came this way, and the crimson rambler was started from a bouquet of flowers that some one gave the mother.

Here in southern Missouri, the narcissus, jonquil, bleeding heart and tulip bloom in April, the peony in May, and by making three plantings of nasturtiums there should be flowers from June till hard frost. A good idea for the peonies would be to select an early red, a medium pink and a late white, thereby prolonging the blooming season. I should, if buying, get only one plant of each color and wait for more until these became large enough to divide and reset. Besides being hardy, and requiring no great amount of care, all of these named plants, except tulips, are ornamental before and after blooming.

Peonies, narcissus and jonquils should be set in the fall, and tulips may be. Then, even if other work should hinder the spring planting, there would be some blossoms.

As each person must work out his scheme according to the lay of the ground, position of buildings and trees, if there are already native trees in the yard, no one can give any advice in detail for the arrangement of the plants. But at least let us reiterate what has been said many times before: "Don't make flower beds in the body of the lawn, and don't dig a hole and put a switch or cutting in it with no regard to how it will affect the view from the house when it becomes a spreading bush or tree."—E. Combs.

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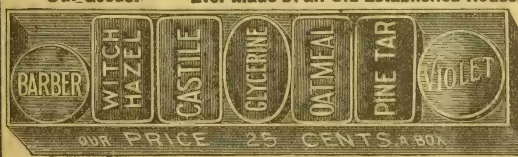

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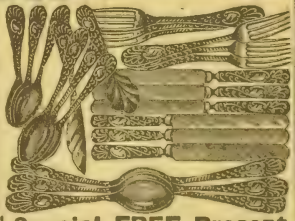

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Cultivating the Young Orchard

With Timely Advice on Cover Crops, Pruning and Banking

By Alvah H. Pulver

CULTIVATION is the keynote of most every success on the farm. It is especially an essential feature of success to the man who would take up the culture of fruit. Let us look at the start a young orchard should receive, say of apples, though for that matter any young orchard should receive the same attention. Thorough cultivation alone will make for after-success.

Some leguminous cover crop, such as mammoth clover or winter vetch, should be used in the north, and if farther south, crimson clover may be used. For the first year or two there is no objection to growing some other crops among the trees. Beans or corn do not do any damage, if kept away from the trees. Potatoes require so much moisture at certain times of the season that they are quite apt to hurt the growth of the trees.

In the fall, before winter sets in, the trees can be banked with dirt, first pulling away all weeds or anything that mice can make a nest of, so as to protect the trees from being girdled. For some reason mice do not like fresh dirt, and trees will seldom be tampered with if banked up with dirt eight or ten inches high. Another reason for banking the trees is to prevent water from settling around the trees. Some growers have had considerable trouble with water, losing many trees after they had been set four or five years. In this case the bark would be found dead just under the ground. The trees would leave out, and possibly make a little growth, then they would commence to shrivel, and finally die. The only thing that could be found out to be the matter with them would be that just under the ground the bark would be dead all around the tree.

With plenty of snow on the ground, a short warm spell would cause a thawing around the tree, and, with it being frozen underneath, the water could not get away, but would freeze and expand, tearing the bark loose.

Very little trimming should be done on young trees, just enough to shape the main limbs. The proper number of limbs on a tree is four, and these four limbs should be selected according to the variety. If it is an upright-growing variety, the limbs should be thrown at a wider angle than if it is a spreading variety. For instance, a Greening and a Wolf River are noted for being varieties that spread, and the four limbs should be quite upright, so that later in pruning, these main limbs will not have to be taken off when the weight of the fruit has borne them down. The Spy is noted for being an upright grower, and the four main limbs should be at an angle of wider girth, so as to give it more of a spreading effect.

Aside from getting these limbs into shape, no more trimming will be necessary, other than enough to keep out the cross limbs while the trees are young. This applies to the trees until they begin to bear, when it is necessary to prune them enough so that the sun can get to the fruit.

The Fertility Problem

Nearly all of our soils are becoming deficient in humus. Potash is supplied by applying either muriate of potash or sulphate of potash. If the soil is of a retentive nature—that is if it holds moisture readily—sulphate of potash may be used. If it is inclined to be dry, then use muriate of potash. The ammonia is sometimes supplied by barnyard manure, or by buying some fertilizer that is high in ammonia. Many practical growers believe that the cheapest and best way to supply ammonia is to grow the leguminous plants that are best adapted to their respective climates. These plants have the faculty of taking nitrogen from the air and storing it up in the little nodules on the roots. Then, when the cover crop is turned under it is left in the soil, and furnishes a lot of humus and ammonia. But we must remember that this is in the form of ammonia, whether it is in the barnyard manure or on the roots of the plants, and that the trees cannot use it until it is nitrified or turned into nitrogen. We have three sets of bacteria doing the work, that is nitrifying the ammonia. The soil chemist tells us that these bacteria will not work in water; they will not work if it is very dry, but that their most effective work is under moist conditions. They tell us that they will not work in a temperature below 56 degrees Fahrenheit; that they will not work much in a temperature above 90 degrees; that their most effective work is in a temperature of 70 or 75 degrees—that is soil temperature.

The bacteria will not work in manure until that manure has become disintegrated and incorporated with the soil. Therefore we see the importance of thorough cultivation and drainage, such as will lower the water table below the feeding roots, if the soil does not drain naturally. Thus it will be seen that one of the most important factors in growing apple orchards quickly is thorough cultivation, especially near the trees.

Cover Crops and Pruning

For the first year or two there would be no objection if some hoed crop should be planted between the trees, if kept well away from the trees, some crop that would not interfere with thorough cultivation near the trees up to the middle of July. As these trees develop, they want a little trimming, just enough to correct anything that later would make then misshapen. We want to grow these trees up to bearing size as quickly as possible, and we do not want any crop that would take the

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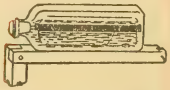
HOME-MADE BUTTON-HOLE CUTTER.

Take a piece of wood the width you want button holes made, lay the cloth over it, and cut with sharp knife. You will find that it will cut the cloth neater than with a pair of scissors.

TO MEND AN UMBRELLA.

Fill the Hole in the handle with powdered rosin and insert into it the end of the rod heated sufficiently to melt the rosin.

A HOME-MADE LEVEL.



Paste a piece of paper oblong length on the outside of an 8 or 10-oz. bottle. Partly fill the bottle and you will have a very good spirit level.

SELF-CLOSING GATE.

A gate that will close itself can be made by making the bottom board project past the post and a stout spiral spring nailed to stake as shown in cut.

MAKING THEM PULL TOGETHER.

When a team will not pull together, the following simple remedy will prove successful: Unhitch the inside traces and cross them as shown in cut.

HOME-MADE WRENCH FOR TURNING A PIPE.

If you haven't a pipe wrench handy, take two old files and an ordinary washer, as per cut shown.

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moisture away from them in the spring of the year. Still we must remember, that when the tree is putting on a rapid growth, most varieties will not form fruit buds until that growth is checked. We must also remember that the more severely apple trees are trimmed during the dormant months the more wood growth will they put on, and the less liable they are to form fruit buds.

One other thing to guard against is overproduction of fruit by the young trees. Such trees are liable to receive setbacks that will leave their influence for several years. Many experts also believe that it is better for the trees to let them commence to bear while they are young, and not allow all their tendencies go to wood growth. This would seem to be one reason why the Baldwins, Greenings and the Spies have had the reputation of not bearing until they were fifteen or twenty years old. When they have been grown very rapidly, barnyard manure has been applied very freely, and the whole tendency of the trees has been to wood growth instead of forming fruit buds. Then by seeding the orchard down the growth has been checked, and they have formed fruit buds during July and August for the next year, and the following year they have been allowed to set a much heavier crop of fruit and carry it through than was good for the trees.

Require Same Care as Animals

In some respects the apple tree is like an animal. We know with animals that during the breeding season the male is taken extraordinary good care of and the female must be in a good state of health to get good results. We also know that as quick as the fetus is formed and commences to grow, if this stimulating food is continued it will go to forming flesh at the expense of the fetus. It would seem that the same thing is true of the apple tree. During the months of incubation, which are the months of April, May and June, while the tree is forming its embryo blossoms, leaves, embryo seeds and apples, and is getting ready to form the fruit buds for another year, is a very critical time for the tree. It must have plenty of moisture and food for the rootlets to take up and the plant food must be readily available.

As quick as the apples are formed and commence to grow, this stimulating food must be stopped, and the moisture taken away from the trees, or the tendency will be toward wood growth at the expense of the apples. The plan of Mr. Case, a New York grower on a large scale, has been that with bearing trees, as soon in June as the trees begin to show a dark green foliage of unusual size, which denotes that they are putting on a large growth of wood, to immediately seed the orchard down with either clover or vetch, usually about the tenth or fifteenth of June, varying with different orchards from the fifth of June to the first of July, according to how they are putting on wood growth. Then the weeds which start to grow, and the cover crop which had been sown, would take up the moisture and take the readily available food away from the tree, and thus check the wood growth.

There is another object in this for the red varieties of apples in which the color is the all-important factor. After studying the question for a good many years, Mr. Case has become convinced that the main factor in coloring apples is the sun, and that it is difficult to get a good color on apples which are shaded by dense foliage, or protected by trees that are thick and making a large wood growth.

Another point worth remembering is that if dry weather comes later in the development of the apple crop, that the amount of humus in the soil determines the capacity of that soil for taking up and retaining moisture. While cultivation does conserve moisture to a certain extent, we must remember that the more we cultivate the more do we burn up the humus in the soil, and that our soil, by late cultivation, soon exhausts the humus, and it becomes easily affected by dry weather. If the soil is full of humus it will be able to carry the crop through to good size, even if the weather is dry.

These are the reasons for thorough cultivation up to the time when the trees begin to show a dark green foliage of large size. With this method, followed by seeding with some cover crop, there should be no reason why the orchardist should not have the fullest control of the growth of his trees, enabling him to produce an annual crop of apples. In order to be successful with an apple orchard one must maintain absolute control over the growth of wood that the tree is making.

RYE AS A COVER CROP

A hundred-acre fruit farm in southern Ohio had been sadly neglected. Trees and weeds had vied with each other to see which depleted the soil of its plant food more quickly. The heavy, yellow clay soil had not been stirred for three years. The humus had been used up, and no new supplied until the soil was a runny, hard, baked substance in which fruit trees were gradually starving to death.

Two years ago the managership of this farm was undertaken by a competent man. He immediately began the uphill work of putting the soil back where it had been six years before.

After a summer of constant cultivation, the orchard was seeded down to rye in the first week in September. By November 15th this cover crop was nearly knee high. It had been sowed double strength in all the ditches, swales and any place that washing might start. In such places the rye was a heavy sod. Every year before this, deep ditches had formed, and the farm had enriched the roadside with its surface soil. Since 1912 there has no trouble in this way.

Notice how a clump of rye will flatten out before a stream of water, allowing the water to slide over it. No erosion can take place, because the water cannot start cutting. Aside from the prevention of erosion, the cover crop protects the elements of plant food in the soil from loss through rapid changes from freezing to thawing. The rye is a blanket for the soil.

As soon as plowing can be started in the spring, the rye is turned under. By this time it has attained quite some size. From this point on the plant performs its most important function. It supplies food to the trees. This is done through decomposition.

As no food can be taken into a tree.

(Continued on Page 30)

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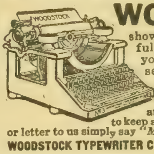

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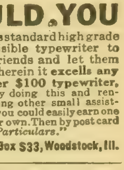

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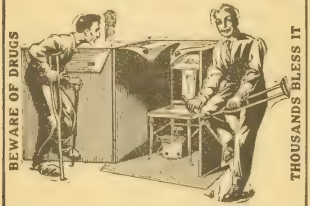

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AS A RESULT of extensive experiments with "hard" seed of legumes, the farm crops section of the Iowa Agricultural Experiment station has built a practical machine by the use of which it is possible to increase over 90 per cent the germination of legume seed which before treatment did not germinate as much as 5 per cent.

The purpose of the work with legume seeds out of which this machine has developed has been four fold: First, to determine the extent to which the "hard" character of the seed coat is present in seed of various legumes; second, to determine the factors influencing the per cent of seeds of the various legumes which were unable to germinate because of the "hard" seed coat; third, to determine the actual agricultural value of such seed, and fourth, to perfect a practical machine by the use of which it would be possible to insure the prompt germination of all live seed.

The first machine that was efficient in increasing the germination of legume seeds was built in December, 1913. No announcement was made at that time, however, in order to allow time for field tests comparing treated and untreated seed, in addition to extensive germination tests. A large number of plots were seeded on the station field in the summer of 1914, comparing treated and untreated seed from various sources. In a large number of cases stands, which were if anything too thick, were secured from the scarified seed when the same seed not scarified, sown at the same rate and time, failed entirely to produce any stand at all.

Several thousand pounds of seed were treated for individual farmers. An Illinois farmer having farms in Iowa, for whom the section treated some 3,000 pounds of sweet clover seed, states in a letter that the seed germinated approximately 50 per cent when sent to Ames, but germinated 98 per cent when returned. An Iowa farmer reports using 5 pounds per acre of treated sweet clover seed, from which he secured a perfect stand, while the usual rate of seeding ranges from 15 to 20 pounds per acre with many unsatisfactory stands resulting from uncertain germination.

The construction of the machine with the efficiency indicated, represents eight years work on the part of H. D. Hughes, Chief in Farm Crops, during which time many different methods of construction were tried out.

The machine as constructed, has a capacity of approximately 25 bushels per hour, and requires about four horse power to operate it. The principle involved is simple, and the machine can be constructed at a very moderate cost. It is estimated that the machine can probably be put on the market at a price not to exceed $70.00 or $80.00.

For protection to the public, a United States patent has been applied for, but in order that the greatest benefit from the perfecting of this machine may result to the agricultural interests, the State Board of Education, at a recent meeting on recommendation of Director Curtiss and Professor Hughes decided to throw the manufacture of the machine open to the public.

Any individual or concern is thereby given the right to manufacture and use such machine without restriction. It is hoped that as a result of this action, seed firms will avail themselves of the principles of construction used in this machine, and that seed with a very much higher germination than has heretofore been possible for certain legumes, will be available to farmers.

Those interested in making and using the machine described above can secure principles of construction by applying to the Iowa Agricultural Experiment Station.

It is expected that this machine will be used by seedsmen and others handling large amounts of seed. A smaller, hand power machine, with limited capacity, using an entirely different principle in construction, yet which is equally efficient and which can be constructed very much more cheaply, has been perfected for the use of farmers and those handling only small amounts of seed of those legumes requiring scarifying. This machine will not be available for some weeks, however.

TREATMENT FOR SMUT

There are a number of methods of treating seed grain to prevent smut. Several of these have considerable merit. The cheapest, safest, most easily applied and most uniformly successful is the formalin treatment.

Obtain a 16-ounce (one-pound) bottle of formalin, 40 per cent strength, at the drug store. When everything is ready for treating the seed, make up the treating solution by carefully mixing the formalin with water at the rate of 16 ounces (one pound) of formalin to 40 gallons of water. This would be one ounce of formalin to 2 1-2 gallons of water.

The seed may be treated with the prepared solution in one of two ways, the sprinkling method or the dipping method. If the sprinkling method is to be used, prepare a clean place on the floor or ground and spread down a large canvas or muslin sheet. Sprinkle the sheet thoroughly, using a garden sprinkler. Now place the grain to be treated upon the sheet and sprinkle it thoroughly. When the surface is good and moist, shovel the grain over, as concrete is mixed, so as to moisten all the grain. Continue this sprinkling and mixing until the grain is well moistened. Now cover up the grain with sacks or blankets and allow it to stand for at least two hours. At the end of this time uncover the grain and spread it out so that it

(Continued on Page 22)

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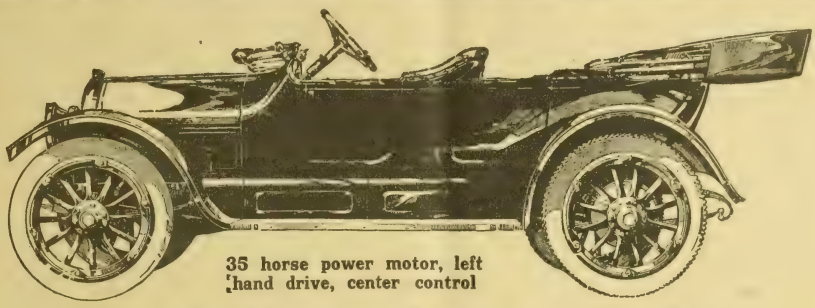

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If someone were to show you one of these beautiful Overland cars and tell you that if you would do what is equivalent to one week's work you could have the car, we know that you would accept it. You would not hesitate a moment.

What we are going to ask you to do, in all probability, will be equivalent to not more than this. The little work will be simple and easy—so simple and easy that a boy twelve years old can accomplish the feat and do it easily.

All we ask is a little of your spare time. We are going to pay every person for everything they may do for us, no matter whether they get this automobile or not. Someone is going to get it, and it might just as well be you as anyone else. You can have it if you make up your mind that you are going to get it, and this is not idle talk. It is an absolute and positive fact.

The work required to secure this automobile will represent only a very small fractional part of the value of the automobile. Below you will find a coupon all ready for you to write in your name and mail to us.

Remember, sending this coupon obligates you for nothing. We will send you our offer and if it does not look good to you, that is all there will be to it. The coupon brings you the desired information, so don't fail to send it today. Don't miss the opportunity.

How the Automobile Will be Given Away

We are going to give this automobile, along with hundreds of other valuable prizes, absolutely free, in a new voting contest, particulars of which will be sent you upon receipt of your name and address.

Anyone can enter this contest, old or young, rich or poor. It makes no difference where you live. You stand just as good a chance living in California as you do living in Ohio.

Our plans for conducting the contest are guaranteed to be absolutely fair and square to all. No one connected with our concern, or living in Springfield, Ohio, or Clarke County, Ohio, in which Springfield is located, will be permitted to enter this contest.

We make this rule in order to protect those who live at a distance and to prove to you that our contest will be equally fair and open to all. No one who enters this contest can lose a penny. We have a prize for every one who takes part, and a handsome and valuable one at that. These prizes are all given in addition to the big, grand, free automobile, which is the first prize.

We, therefore, ask you to send us your name and address promptly, so that we may give you the information which you desire. The whole plan is very simple and easy. There are no catches or strings to it. It is very plain and even a child can understand. *Send the coupon.*

Hundreds of Prizes for Everybody

Remember, there is a prize for each and every one who enters this contest. These prizes will not cost you a cent of money.

The little favor that we ask you to do can be done in your spare time and is so plain and easy that anyone can perform it.

Here's the chance of a lifetime to get a genuine, new Overland automobile without it costing you a penny. An opportunity like this may never come to you again.

We are an old, reliable concern, financially responsible, and can give you the best of bank references, if you so desire, so please do not hesitate, but send us the coupon and see what we have to offer you. Do it today while you think of it. Address

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That does not sound true but it is. This little girl sent in only $9.50 worth of subscriptions and won this pony outfit. Answer this ad saying you want to win a pony outfit in the easiest way and I will send you this little girl's name and address, and tell you how you can do the same thing. The work is not hard, any boy or girl can go out and win just as this little Nebraska girl did. If you will send your name and four cents within ten days I will send you a present free. Address

HENRY L. FREKING,
Dept F. N. Spencer, Ind.

TREATMENT FOR SMUT

(Continued from Page 20)

may dry thoroughly. The germinating power is liable to be injured unless the grain is well dried after treatment.

The dipping method is performed by putting the solution in a barrel and then dipping the grain held in a gunny sack into the solution, allowing it to remain 10 minutes, taking it out and permitting it to drain until the superfluous liquid drains back into the barrel. After draining, the grain is placed in a pile and covered with sacks or blankets, in the same manner as in the sprinkling methods, and allowed to stand two hours, after which it should be thoroughly dried before planting.

One pound of formalin to 40 gallons of water is sufficient to treat 2,500 pounds of grain. Smaller amounts of grain will require about two gallons of the solution to every 100 pounds of grain.—Alvin Keyser, Col. Ag. Coll.

ABOUT INSECTS

Part of the equipment of the modern farmer is a practical knowledge of and business acquaintance with farm pests.

The farmer generally breeds on his own farm, those insects which later devastate his crops. By cleaning up fence rows, hedge rows and burning refuse we can rid ourselves of many of these pests. Thousands of grasshoppers breed in a narrow uncultivated fence row.

The rotation of crops is the greatest control method for farm pests generally. On account of white grub damages it is best not to plant corn on newly plowed sod or pasture land.

"White grubs" and "wireworms" feed below the surface of the ground; hence, cannot be poisoned. By fall plowing and cultivating or summer-fallowing infested land much can be done to control them.

We must know how an insect feeds in order to know how to deal with him. Some insects chew their food while others suck the juice from foliage, stalk or root. The sucking insects cannot be killed by spraying with poison.

Do not be afraid to kill "currant worms," "cabbage worms" with Paris green or arsenate of lead.

Kerosene emulsion is made up as follows: Stock solution: 1 gallon soft water, ½ pound soap; 2 gallons kerosene. Thoroughly dissolve soap in boiling water and add kerosene and churn violently. Dilute with five parts of water.

CEMENT FORMULAS

Acid and heat proof cement—Use quicklime and linseed oil.

To fasten iron in stone or concrete—Thick paste of glycerine and litharge.

To fill holes in castings—Thick paste or sodium silicate and dioxide of manganese.

To fill holes in woodwork—Thick solution of sawdust and rosin dissolved in hot glue.

Cement for marble, glass, etc.—Sodium silicate mixed into a paste with either whiting or Portland cement.

To mend broken castings—Sodium silicate and iron fillings; or sal ammoniac, 2 parts; sulphur, 1 part; iron fillings, 14 parts, pulverized and mixed with water at time of using.

MARKET FOR PUMPKINS

There is always a market in the cities, at fairly good prices, for nice specimens of pumpkins and squashes that will make good pie material. Grocers handle a few, and others can be retailed readily. For this trade, medium-sized specimens of good quality are preferred over the large overgrown ones. The old reliable Hubbard is a good variety of squash to grow for market purposes, and one of the small pie pumpkins that possesses a good quality is better than the large varieties which are usually grown for stock food.

A Real Farm Specialist

(Continued from Page 8)

"Fruit always repays care. When my peach trees, for instance, were four years old I harvested an average of over three bushels to each tree; and my trees have borne a full crop for six consecutive years. They do this because I prune, spray, fertilize and cultivate."

In going over Mr. Pence's orchards one is impressed with the fact that here intelligent and unremitting care has taken a mediocre proposition and changed it into a splendidly paying success. The kind of success which encourages others to go and do likewise, and, Mr. Pence says, "I have done nothing extraordinary. Anyone willing to work and study can do as well or better than I."

But then that is what all who have achieved say, for those who have wrought out a problem are sure others can do likewise. And so they can if they but will.

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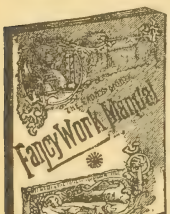
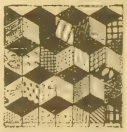


The Fancy-Work Book contains designs and directions for making nearly fifty different patterns of knitted laces. This book, embodies all the latest ideas in needlework, crochet, knitting and embroidery, and instructions for making many useful articles of wearing apparel and numerous articles for home decoration, among which are tidies, chair-scarfs, doilies, purses, table mats, shopping bags, lamp shades, shawls, afghans, toilet sets, counterpanes, sofa cushions, chair-covers, pincushions, dressing slippers, babies' socks, etc. Complete instructions accompany each design, together with an explanation of the terms used in knitting and crocheting, etc. It also contains complete instructions in the art of embroidery. The whole is illustrated by 95 handsome engravings. With this book any one may become a real expert at this work. The Quilt Block Patterns have been selected from 800 designs that were submitted in a prize winning contest. We have reproduced 36 of the very best designs in pamphlet form.



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Solid Oak, strongly constructed throughout, carefully reinforced and braced. Seat has guaranteed steel spring construction, consisting of six oil-tempered coil springs, and heavy corrugated steel wire. Back and seat covered with Royal Leather.

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Consists of handsome, continuous, post bed; woven wire spring, and full 45 lbs. weight cotton top mattress. Bed made in one piece and is chill-less. Is 57 1-2 inches high at head and 38 1-2 inches high at foot end. Posts are continuous. Measure 1-7/8 inches in diameter. Five 3-8-inch fillers at each end. Woven wire spring with steel coil spring supports. Bed comes 3 ft. 6 in. and 4 ft. 6 in. sizes in porcelain-white, or gold finish (Vernis Martin). State which is wanted.

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This massive, overstuffed rocker is positively one of the biggest values ever offered. Substantially constructed and elegantly upholstered in Royal Leather. Back is high, artistically shaped and neatly button tufted. Front and sides are ruffled.

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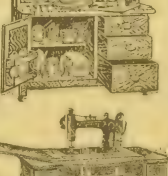

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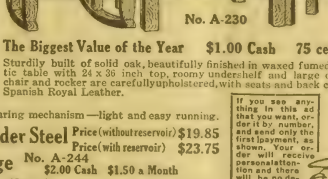
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Sturdily built of solid oak, beautifully finished in waxed fumed oak. Artistic table with 24 x 36 inch top, roomy undershelf and large drawer. Arm chair and rocker are carefully upholstered, with seats and back covered in rich Spanish Royal Leather.

The Biggest Value of the Year $1.00 Cash 75 cents a Month

No. A-232 Sewing Machine

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Guaranteed for 10 years. Case is quarter-sawed oak; polished in golden. A few of the features of this splendid machine are: Spring tension with convenient release. Improved Take Up. Positive Double Feed. Steel Forged Four Motion Feed. Automatic Bobbin Winder. Self Threading Shuttles. Self-Setting Needle. Gear Releasing Device. Improved Stitch Regulator on face of arm and nickeled Steel removable Face Plate. Complete with full set of attachments.

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Price (with reservoir) $23.75
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A massive magnificent Range at a record-breaking price. Body is made of polished cold rolled blue steel, built to give a lifetime of service. Range has steel high-closet as shown, duplex grates and large oven (18 x 16 x 10½ inches). Handsome nickel trimmings.

If you see anything in this ad that you want, order it by number, and send only the first payment, as shown. Your order will receive personal attention and there will be no delay. Remember: A year or longer to pay—and 30 days' free trial.

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Your name and address will bring you full information about the most wonderful offer you have ever received. You can actually become the owner of a fine 1916 MODEL TOURING CAR without having to spend ONE CENT for it. The only thing we ask of you is a few hours of your spare time introducing our proposition in your territory. Wouldn't you feel MORE than repaid to receive in such an easy manner this

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Kinks in Animal Husbandry

Things That Cheapen Production and Increase the Measure of Profit

By W. F. Purdue

HOGGING OFF CORN

After the corn is well past roasting ear stage, or about the time it is ready for cutting for the shock, many farmers harvest a portion of their crop by turning their fattening hogs into a field of standing corn. This practice of hogging off corn is characterized by some as a wasteful method of corn harvesting, but from the experiments and actual field tests made by the experiment stations and farmers throughout the corn belt, this claim is not borne out.

Where scientific methods are employed, the hogging off of corn has proved profitable, and many of the most successful feeders now fatten their hogs in this way. In nearly every case on record it has been found that this method of harvesting will return as much for the corn while standing on the stalks as the same corn will bring when husked and cribbed, and later fed out to the hogs. If such is the case, why not save some of the labor of harvesting by putting the hogs at work to gathering their own feed for a few weeks?

The claim that this method of corn harvesting is a wasteful method is made largely by those who have not employed the best methods in the operation of hogging off a field of corn. Like other farm operations, there is a right and a wrong way of employing the hogs to gather their own feed. The wrong way is to turn a bunch of hogs into a large field, and leave them there during all kinds of weather. If the hogs have more to eat than they can handle, they naturally will waste some of the feed. The ears of corn will be so plentiful that, considering the nature of the hog, one need not be surprised to find that the shoats are leaving half-eaten ears all over the field and that before the animals get back to these ears they have soured, and thus are unfit for food, or else they have become buried in the ground and are never found again.

For best results from a large field of corn, a small portion of the field, just what the hogs can clean up in a week or ten days, should be fenced off with a temporary wire fence. A very few line posts, if the end posts are solid, will hold such a fence in position as long as is necessary. Do not remove the animals to a fresh patch of corn until the first is completely cleaned up. If the hogs cannot break down all the stalks, it is advisable to drag over the patch with a pole, so that the animals can get all of the feed. It may be necessary, however, to provide additional feed for a couple of days at the last. In order that none of the corn may become buried in the mud, the hogs should be removed and fed elsewhere during periods of wet weather.

While the large shoats are running in the corn small pigs can advantageously follow the shoats, as they will pick up much of the grain left by the fat hogs. Of course, hogs should be accustomed to new corn before being turned into a field. This can be done by feeding some new corn every day at their regular meal times for about a week, at the end of which time the shoats will be ready to go into the corn field and help themselves without danger of suffering any ill-effects from the corn. Water in abundance and shade should be provided the hogs while running in the corn.

COMBAT PARASITES BY DISINFECTING BARNS AND PENS

It may not be understood by all farmers, that insect pests of farm animals, such as ticks and lice, will remain in the litter and about the walls of the buildings during the entire summer while the stock is at pasture, waiting the time when the animals must again be housed. Such is the case, however. Nearly every farmer now realizes the economic importance of destroying the harmful parasites which prey upon his stock, and to this end most farmers employ either a dipping tank or a spraying outfit in combatting the vermin.

Not enough attention is paid, however, to the matter of giving the stables and pens a thorough cleaning and disinfecting at the same time the animals themselves are treated. As a conse-

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State .....

quence, there are always parasites in the buildings ready to infest immediately animals from which vermin have just been removed by treatment.

There are many stables in the land now which are harboring numerous insect pests that crawled off the animals and secreted themselves in the crevices about the buildings, and which were left behind when the stock was turned to pasture for the summer. Such parasites are hibernating, as it were, until the stabling season for the stock again arrives, when the pests will emerge from their retreats ready for business. For this reason, every stable and pen which will be used the coming winter should be thoroughly cleaned and disinfected before the arrival of the close-housing season.

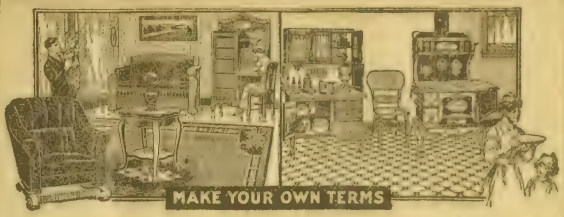
Destroy all vermin at this time, and leave the premises sweet and wholesome, so that when the animals return to their winter quarters in good flesh, and free from lice and skin diseases, they will enter stables that are in a sanitary condition. Use a force pump that will drive a good antiparasite solution into all of the retreats of the insects, and thus rout them completely.

Ticks and lice are directly responsible for many cases of sickness among farm herds. The parasites, while very small individually, are usually present in such numbers, where every effort is not made to keep them under control, as to do a vast amount of harm. Practical tests have demonstrated that they deter growth, weaken the general physical condition, and render the animals infested an easy prey to contagious maladies. It has been conclusively proved that during epidemics of hog cholera, animals infested by lice are most susceptible to the disease, and that the percentage of fatalities is greater than among herds free from lice. So evident is this that the first treatment for cholera recommended by experts is to destroy the lice on the animals and disinfect the pens.

SELLING APPLES BY PARCEL POST

A New Hampshire man had considerable success last season shipping apples by parcel post. He disposed of a large crop, practically all in this way. At first he devised the plan with the idea of using the postal method to ship small samples of the fruit, hoping thereby to obtain barrel orders. The plan proved so successful that he did not follow up the barrel shipment plan to any extent.

A few advertisements were inserted in papers published in cities where he wished to obtain customers. He used corrugated paper boxes of a size to hold 27 fancy Baldwins. The boxes cost 7 cents each. Postage, in zones as far as the fifty, was 16 cents. The total cost for a box of this size is 23 cents. He received for each one, 50 cents, leaving him 27 cents for the apples, just a cent apiece. It is true that only a part of the crop is of a size and perfection to bring this price, but, on the whole, the experiment proved fairly profitable. This man is one of the few growers whose product is practically all fancy fruit. It proves that good care pays in the orchard when, in a season like the past of low prices and sluggish demand, a man is able to sell his crop at practically two cents apiece.—C. H. Chesley.



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To 10,000 Farmers

Special Credit on Home Things

1000 Discounts—Your Own Terms

Jubilee Sale

This month we are starting a great Jubilee Sale. This is our 50th year in selling home things on credit.

For 50 years farmers have proved the best-paying customers we have. So we are making to 10,000 farmers—new customers only—this special Jubilee offer.

Credit Cards

We offer to send with our Jubilee Book a Credit Card showing that your account is open. No references are required. If you are a farmer we will open up this charge account without any red tape whatever.

Your Own Terms

Then, if you order, we will send the goods on 30 days' free trial. You may use them a month before buying. Return at our expense if not wanted.

You may buy on one year's credit without interest. You may pay as you wish—as you sell your crops, or each three months, or a little each month. Make your own terms and we will meet them.

1000 Discounts

For this sale we issue an enormous Jubilee Book, costing us $1 per copy. It shows 5152 things for the home. It guarantees each price to be the lowest in America, and a Surety Company backs this guarantee.

In addition it quotes 1000 special discounts. These are Jubilee bargains at amazing prices which can never be quoted again.

Send this coupon for the book. See our marvelous offers. Your Credit Card will come with the book, and our definite offer to sell you on any terms you say. Cut out the coupon now.

Spiegel, May, Stern Co.
1084 W. 35th Street, Chicago

Jubilee Book
Picturing 5152 Home Things

Furniture	Silverware—Clocks
Carpets—Rugs	Chinaware—Lamps
Draperies—Linens	Sewing Machines
Curtains—Bedding	Kitchen Cabinets
Oilcloths, etc.	Carpenters' Tools
Baby Cabs	Cameras—Pictures

Costs Us $1—Free to You

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Mail me your Jubilee Bargain Book, with details about your Farm Credit Plan. Also the books I mark below.
____Stove Book____Watches and Jewelry.
Name.....
Address.....
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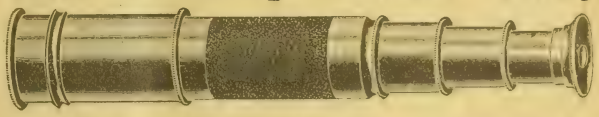
Check which catalogs you want. (998)

This Telescope Given Away



See What Your Neighbors Are Doing

This Excelsior Multi-focal Telescope has a multiplicity of uses—its pleasure is never dimmed—each day discovers new delight. You can use it as a microscope to find germs in plants, foods, seeds, etc. It is mechanically correct, brass bound, brass safety cap to exclude dust. Powerful lenses, scientifically ground and adjusted. Handy to carry, will go in the pocket when closed, but when opened, is over 2½ feet long. One owner writes that he can count cattle 20 miles away. Another says he can see in his neighbors' windows several miles away. We are going to give away thousands of these Multi-focal Telescopes and you can have one in return for doing us a little favor. Something anyone can do easily. Send no money, just write a card and say you want a free Telescope as advertised. Address

N. DUNN, Manager Department 11 SPRINGFIELD, OHIO

10 Days Free Trial

Charges Prepaid Send No Money

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NEW KEROSENE LIGHT

Beats Electric or Gasoline

We don't ask you to pay us *a cent* until you have used this wonderful modern light in your own home ten days—we even prepay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at 33 leading Universities and Government Bureau of Standards show it

Burns 50 Hours on One Gallon

common coal oil, and gives more than twice as much light as the best round wick open flame lamps. No odor, smoke or noise, simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed,

$1000 Will Be Given

to the person who shows us an oil lamp equal to the new ***Aladdin*** (details of offer given in our circular.) Would we dare make such a challenge if there were the slightest doubt as to merits of the ***Aladdin?*** We want ***one user in each locality*** to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp ***free*** for showing it to a few neighbors and sending in their orders. Write quick for ***10-Day Absolutely Free Trial.*** Just say, "Show me how I can get a strong white light from kerosene oil, ***without risking a cent.***" Address our nearest office.

Awarded GOLD MEDAL at World's Exposition San Francisco

Men Make $50 to $300.00 Per Month With Rigs or Autos delivering the ALADDIN on our easy trial plan. No previous experience necessary.

Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 61 lamps the first seven days." Another says: "I disposed of 37 lamps out of 31 calls." Thousands who are coining money endorse the Aladdin just as strongly.

NO MONEY Required

We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in uncoupied territory. **Sample sent for 10 days FREE TRIAL.**

MANTLE LAMP COMPANY, 361 Aladdin Building

Largest Kerosene (Coal Oil) Mantle Lamp House in the World

CHICAGO, ILL. NEW YORK CITY PORTLAND, ORE. MONTREAL or WINNIPEG, CAN.

Roofing Bargains!!

Ready Roofing **40c** Per Square

GALVANIZED ROOFING Fire, Water and Lightning Proof

Metal Roofing **97c** Per Square

P-R-I-C-E-S S-M-A-S-H-E-D

Galvanized Roofing—$2.25 up per square

97c

We can furnish Corrugated, V-Crimped, Standing Seam, Beaded Ceiling and all kinds of ornamental ceiling plates at **positively the lowest prices ever made!**

Tell Us Your Roofing Needs **Get Our Advice—FREE!** Write us the kind of building, exact dimensions of roof, when you expect to buy, etc. etc. We will give you—FREE—the benefit of our 23 years roofing experience. Our Roofing Experts will tell you exactly how much to buy, best selection, exact cost, full directions for laying, etc.

Wonderful Saving in Ready Roofing

We recognize no competition on roofing! Our 40-acre plant contains immense stocks of dependable roofing **of every kind** at prices so low that it would be folly to think of buying anywhere but here.

AJAX ROOFING

FREE!

Ajax Brand Rubber Surface New Ready Roofing—2 and 3 pieces to roll—complete with nails and cement: ½-ply, **40c;** 1-ply, **75c;** 2-ply, **86c;** 3-ply, **95c.**

Samples—All Kinds—FREE!

Send for our New Roofing Bargain Book—best ever written on the subject. Valuable advice—common sense talk—filled with wonderful bargains. Ask us for samples. We will send you **every** kind—**FREE** It will pay you—**BIG**—to decide nothing about roofing until you hear from us. **MAIL COUPON TODAY!**

PRICE SMASHED

Mail this Coupon

Chicago House Wrecking Co., Dept. S66 Chicago

Gentlemen:—Without promise or obligation to purchase, please send me your big, new illustrated catalog on roofing and coverings.

Name _____

Address _____

_____

(Give building, size of roof and kind of roofing needed.)

Chicago House Wrecking Co. 35th and Iron Sts. CHICAGO

"Dobbin" and "Barney" vs. Farm Truck

(Continued from Page 5)

termittent—he only wants one occasionally. If he cannot afford to own both, he can use a big truck all through the year for hauling produce to market and supplies homeward, together with such field work as the truck will perform. Then when he needs the larger power for the occasional job, he backs in, couples up, and away she goes without any fuss or delay.

In the far west it is not uncommon to see ponderous tractors making their two-and-a-half miles an hour pulling four to six wagons loaded with wheat to the elevator. An immense freight business is done between Chicago and her suburbs by means of the huge motor trucks which move rapidly back and forth on the paved streets.

So far, most of the country hauling has been done with moderately light outfits. How soon shall we see titan trucks or gasoline "freight trains," of farm products moving along the hard roads of progressive rural communities? This is no idle dream, but an early possibility, in line with the modern demand for efficiency, whose middle name is "more mechanical and less man power." High-pressure farm implements that enable one man to do the work of two, are off the same piece of goods as growing two blades of grass where but one grew before.

The all-round utility truck is growing in favor with the general farmer. Market gardeners especially find it a good investment. Perhaps no class of farmers has been so benefited by the advent of the auto-truck as the dairymen. The man who sells milk or cream must make regular daily trips on a time schedule. When you have to catch the 5:15 eastbound you know to a dead certainty that time is money, and speed means profit. With one of these new models you can load up and annihilate distance to town and back, while old Dobbin and Barney would only be half way there. Hundreds of these specially designed cars are used for delivering bottled milk direct to the consumer. Many are used for hauling cans of milk and cream from the farm to the creamery, or the shipping platform, or cheese factory.

Listen to what one of these hard-headed, practical dairymen says about it—Mr. Ira Wilson, of Bedford, Mich., talking:

"It would be impossible to do with horses what we do with motor trucks. The horses couldn't cover the ground, and their slow pace would render the whole proposition out of the question. Until we introduced trucks for delivering milk, it was impossible to market half of the produce from this section. There is only one train a day, and to send milk by horses was impossible—it would spoil before it got to its destination.

"We haul milk not only from our own dairy, but from surrounding farms, on contract with the Detroit Creamery Co., for so much a hundred pounds per mile. My present equipment is two 2-ton trucks, and a third is on its way. Each of these trucks covers ninety miles every day, and carries from three to three and a half tons of milk—considerably more than the rated capacity.

(Concluded on Page 30)

Co-operation's Greatest Obstacle

(Continued from Page 10)

practiced in the Pacific Coast regions, and also prevent it coloring as deep as is the case in the younger orchards in those regions. Then we have right at our very doors an immense trade that demands cheaper apples for cooking and canning purposes, and if we sort out every really choice apple it reduces the value of the balance which must be sold at a great sacrifice.

Of late years the box as a package for apples has come into prominence, and it is only natural that many growers have looked upon it with favor without considering its disadvantages. If every grower were to sort out his best fruit and pack it into boxes the average family could not afford to buy the fruit for family use. The market demands seconds, and is willing to pay fair prices for them.

The canning factories, evaporators and cider mills have been of great benefit in affording an outlet for cull apples, and preserve a portion of the crop in a form that may be eaten during the entire year. In every locality where these outlets are available there is less temptation for the growers to run their entire crop into barrels and take chances on being detected at the storage houses or loading station.

In the New York apple belt some of these plants are paying annually thousands of dollars to growers for their cull stuff. This removes it from the market so that it does not compete with the first grades. There are several plants that are equipped for the making of jelly, and the business is a profitable one. Considerable of the apple jelly is flavored with other fruit flavorings, and sold for jelly of fruits less disposed to form jelly. The output of these plants for the manufacture of jelly, canned apples, evaporated apples and cider varies from year to year, according to the size of the crop and prices during the season.

There is an increasing demand for canned fruits, vegetables and preserves that are put up under ideal sanitary conditions on the farm where they are produced, and many thrifty housewives throughout the country are finding it very profitable to can their surplus fruit at home and sell it to private customers in the cities and villages.

One little club of four women near an eastern city annually put up from four to five thousand cans of fruits and vegetables during the summer and autumn months, and supply a housewife's organization in the city with their canned goods. Two of these women made more clear profit from their little business last year than their husbands did from their entire farms.

Many cooperative selling associations have been unable to hold their members together because they insist upon handling only the best of their products, and leave them to dispose of the lower grades as best they can. The growers eventually become disgusted with such conditions, and sell their crop where they can get the most money. If co-operation is to bring about better results and secure a more even grading and classification of farm products, it must provide means for taking care of the poorer grades of stuff produced in the locality.

A Year to Pay

Not One Cent for Three Months

Never before in the entire history of the gasoline engine business has there been an offer anything like this. And why? Simply because there has never before been produced an engine that could be sold at a remarkable bargain price, so marvelously perfect in every respect that its manufacturer has the confidence in it to say: **"Take my engine. Don't send me a cent of your money until, from your own experience with it, you are absolutely sure that it is the engine you want. If it isn't, send it back at my expense. If it is, you may use it for 3 whole months before you make even the first payment and then pay the balance in 6, 9 and 12 months and I'll not charge you one cent of interest."** No, you've never seen an offer like that before. Yet that is precisely the offer that Hartman makes on this world-famous Majestic Engine. Why this offer of

MAJESTIC STATIONARY ENGINE
Sizes 2, 3, 5, 7, 9 and 14 Horsepower
Iron sub-base mounting. Burns gasoline, gas, naphtha, kerosene, distillate.

No Money In Advance

is possible. First, because the Majestic is such an amazing triumph in engine construction that we positively know it will stand up under the severest tests. Therefore, we have no hesitancy in sending it out without a cent in advance, without a deposit of any kind so that you, by testing it out on any kind of work, may let it prove our claims for it right on your own place wholly at our risk.

Second, because the tremendous financial strength of the great House of Hartman permits the extension of more liberal credit terms than have before been offered to the power users of this or any other country. Only the mammoth Hartman institution with its more than $10,000,000 capital, immense buying power and enormous output could afford to make such an offer.

Great Majestic Engines

GASOLINE, KEROSENE, NAPHTHA, GAS

MAJESTIC HORSE PORTABLE
All-Steel Truck, wide-tired wheels, heavy hubs, staggered spokes. Front axle swivel type; wheels, passing over obstructions, do not disturb level of engine. 5, 7, 9 and 14 H-P. mounted this style.

Simplest, most durable, most powerful for its H-P. rating and most economical-to-operate gasoline engine ever made. Don't confuse it with old-style, over-heavy type of gasoline engines which are expensive to operate; or with engines so light they literally tear themselves to pieces under a heavy load.

The Majestic is the "happy medium"—neither too heavy nor too light. Has fewer number of parts—a marvel of simplicity. Perfectly balanced—just the right weight for the power it is designed to develop—no excessive friction. Big improvements in all vital parts—and the most wonderful **automatic mixer** ever put on a gasoline engine.

Your Credit Good

Nothing to pay for 3 months. A full year to pay without interest. No bank deposit—no references asked—no mortgage—no embarrassing questions—no collectors—no red tape of any kind.

MAJESTIC PORTABLE WOOD SAW OUTFIT
With Friction Clutch Pulley
All-Steel Truck. Table slides on wheels and is so constructed that it cannot sag or get out of alignment. Outfit shipped with saw and belt complete, ready for work. Saw outfit can be removed, leaving you a Standard Portable Engine. 5, 7, 9 and 14 H-P. mounted this style.

FREE Engine BOOK! Write today for your free copy of the most wonderful book of engines ever published. Tells why the wonderful Majestic is the biggest engine value in America today.

Ask for Special Engine Catalog No. 218-E

HARTMAN COMPANY
4062-64 LaSalle Street, Chicago, Ill.

FREE GRAND SURPRISE-PACKET

15	22	5	18	12	1	14	4	
13	1	24	23	5	12	12		
3	8	5	22	18	15	12	5	20
6	15	18	4					
19	1	24	15	14				

WIN A PRIZE

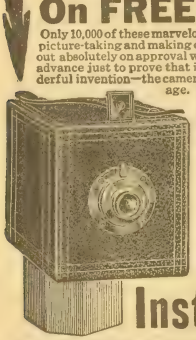
Each one of these five lines of figures spells a word. The five words constitute five articles that we are giving away. This novel interesting puzzle can be solved with a little study as follows: There are twenty-six letters in the alphabet and we have used figures in spelling the five words instead of letters. Letter A is number 1, B number 2, C number 3, etc., throughout the alphabet. IF YOU CAN SPELL OUT THESE FIVE WORDS WE WILL SEND YOU A SURPRISE-PACKET CONTAINING 5 BEAUTIFUL GOLD EMBOSSED POST CARDS, ALSO A CERTIFICATE OF ENTRY in our GRAND PRIZE CONTEST. USE YOUR BRAINS. Try and make out the five words. ACT QUICKLY. Write the five words on a slip of paper, mail it immediately with your name and address and you will promptly receive as your reward this SURPRISE-PACKET, which is a handsome assortment of five beautifully colored Gold Embossed Post Cards, together with a copy of a New York Magazine, also a CERTIFICATE OF ENTRY in our GRAND PRIZE CONTEST, which closes Dec. 23, 1915. Act promptly. This is your opportunity to enter this great contest in which we give away FIVE AUTOMOBILES—An OVERLAND, a MAXWELL, a CHEVROLET, a FORD, and a SAXON—all of them brand new of the latest 1916 model—also PIANO, PHONOGRAPH, GOLD WATCHES, CASH PRIZES, etc. In case of a tie between two or more persons for any Prize, a Prize identical in character and value will be given each person so tied. TRY AND WIN. Address,

E. A. WEST, Mgr., 615 W. 43d St., Dept. 102, New York

No Money In Advance

This Marvelous CAMERA On FREE Trial!

Only 10,000 of these marvelous, instantaneous picture-taking and making cameras to be sent out absolutely on approval without a penny in advance just to prove that it is the most wonderful invention—the camera sensation of the age. So you must send for it quick! Just think of it—the new Mandel-ette



TAKES AND MAKES Finished Pictures Instantly

You press the button, drop card in developer and in one minute take out a perfect, finished post card photo 2½x3½ inches in size. Camera, itself, in about 4½x6x7 inches. Loads in daylight 16 to 50 post cards at one time.

No Films—No Plates—No Dark Room

Not a bit of the muss and bother of the ordinary kodak or camera. It is instantaneous photography. Universal focus lens produces sharp pictures at all distances. Pictures develop and print automatically. Can't overdevelop; results simply amazing.

We Trust You

No difference who you are or where you live we will send you the complete Mandel-ette outfit absolutely on approval and give you 10 days to test it. If not satisfactory return it. If you wish to keep it, simply pay $1.00 when you get the camera and $1.00 per month until our special price of only $5.00 is paid. When you see what elegant pictures it takes so quick, so easy, with no trouble at all—you'll be surprised.

Easy Payments—No References

No red tape of any kind. Monthly payments so small you'll not notice them. Lots of fun and big profits.

No Experience Required

Plain instructions and everything com te with outfit so you can begin taking pictures the moment it arrives. We guarantee that even a child can operate it. Mail coupon right now. No risk or obligation to keep camera.

—The Chicago Ferrotype Co.,—
Desk 145, Ferrotype Bldg., Chicago, Ill.

Send me at once one complete model Mandel-ette Camera outfit including supply of post cards and instructions. I agree to pay $1 when I get the camera, examine and test it thoroughly and if satisfied keep it and pay you $1 a month until your special price of $5 is paid. Otherwise I will return it at the end of 10 days.

Name _____

St. and No. _____

Town _____ State _____

Our Trappers' Department

NOTICE TO READERS

Mr. George J. Thiessen, the author of the series of trapping articles which will appear in this magazine, will answer all questions pertaining to traps and trapping through the columns of this magazine, or personally, if ten cents is sent to cover stenographer fees, stationery, stamps, etc. Mr. Thiessen is an authority upon the subjects he writes about, being the author of nearly a dozen books on trapping. He was special writer for the "Fur News" magazine of New York City, formerly editor of one of the largest trapping magazines in America, and also at one time the head of the trapping department of "Rod & Gun." His experience on the trap line, buying and selling furs, in charge of the consignments for a fur house known to every trapper in America—in fact his familiarity with every phase of the fur business will prove a great help to the readers of this magazine.

RULES—In order for every reader to get the most good from this feature, it will be necessary for each one to carefully observe the following: (1) Not more than five questions will be answered for any one reader each issue. (2) Be brief and clear with questions. (3) Write plainly, giving full name and address. (4) Address all letters to Editor of Trapping, Farm News, Springfield, Ohio. (5) Questions to be answered by mail should be marked "Personal." with 10 cents enclosed.

HOW TO MAKE MONEY TRAPPING

By George J. Thiessen.

With the approach of cold weather, the fur season is with us again. In every rural community there are many animals, such as the skunk, civet cat, muskrat, mink, opossum and raccoon, whose pelts are valuable, and bring good prices when sold. A few steel traps rightly set and leisure time employed in the work, is all that is necessary for the average farmer boy to make his spending money for the whole year.

The first thing one must do is to locate his trapping grounds. This should be done preferably early in the fall, when the animals are busy constructing their winter quarters, and laying up their food for the colder months. At such a time the fur bearers are very active, as a rule, and even the beginner with traps will have no trouble in finding the dens. Of course the boy who has but a few hours daily to look after his trap line, will endeavor to plan so that all his sets are as close to home as possible. When this is done, they may be looked after quickly. Often, too, a horse, bicycle or even a motorcycle—the latter is not always safe to ride through fields when there is dew on the grass—can be utilized nicely, and when this is the case one can attend to a great many more traps than he could were it necessary for him to walk all the way to his sets.

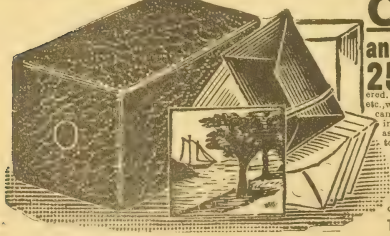
After a trapping grounds has been located in a general way, go over it carefully so as to know exactly how many traps should be used and where they

ought to be placed. The number of sets that can be attended to properly depends primarily upon the time at the trapper's disposal, the scarcity of animals, the route of the trap line, etc. In general I would say, employ as many traps as can be used properly—and no more. A dozen sets, well made and looked after as they should be, will result in greater catches than twice that many that are placed out in a haphazard way.

Before going further, let me say that no animals should be taken too early in the fall, for at this time the fur is poor, and will not bring good prices. For instance, a mink taken in Ohio during September is practically worthless; those in October but little better, usually. Therefore, it is well to remember that traps ought not be placed out for any fur bearers before October, and then only for those fur bearers whose pelts show evidence of being good. Briefly, the following are prime in the order given: The skunk and civet cat

WE WILL GIVE

this **GOLD PLATED LOCKET** (opens to hold two pictures) set with 3 simlitude **RUBIES**, and a lovely 22-inch **CHAIN**, and these **4 GOLD PLATED RINGS** ABSOLUTELY FREE to anyone that will sell only 12 pieces of Jewelry at **10c.** each and return us the **$1.20.** We trust you and take back all not sold. Address **T. J. DALE MFG. CO.** Providence, R. I.



CAMERA and COMPLETE OUTFIT 25c

This is the smallest camera in existence, being a little over 2 inches long. Takes pictures 1½x1¼ inches. Leatherette covered. Complete outfit of plates, papers, chemicals, etc., with complete instructions so any **Boy or Girl** can take **Good Pictures** of landscapes, buildings, friends, etc. Same principle of operation as as high priced cameras. Affords good opportunity to become acquainted with art of photography at small expense. This camera is offered free to introduce our paper. The **FAMILY** into new homes. Send only **25 cents**, stamps or silver, and we will send our paper one year and make you a free present of this fine little camera and outfit, or we will send you our paper 3 years and send you 3 outfits for 60c.

The FAMILY, Springfield, Ohio

—the latter is not found in numbers in Ohio—are first to get a coat of first quality fur, followed by the mink, raccoon and opossum. The muskrat does not prime until late winter and spring, although most of the skins taken are in the fall of the year. This is due to the fact that during the first of the trapping season, the animals are very active and can, consequently, be taken with little trouble while later they den up, to a certain extent, and are hard to trap. Generally speaking, I would not advise trapping before November fifteenth. It might be well also for one to get a copy of the trapping laws of his state so as to be familiar with the open season on the various animals.

Next, traps must be considered. While every pelt hunter seems to have a preference for various kinds and sizes, I will say that in general the Nos. 1 and 1 1-2 will be found the most practical. Personally, I like the No. 0 Jump, Leap or Kangaroo style for muskrats, for the reason that it is strong enough to hold the animal mentioned, and at the same time not so strong as to break the legs when sprung, thereby enabling the fur bearer to escape. Of course the Newhouse traps are known as the best manufactured, but because they are very expensive, may be dispensed with by the amateur. Of the cheaper traps, there are several of the Newhouse style on the market which give very good results. Among these are the Victor made by the same people manufacturing the Newhouse, the Triumph made by another firm in Oneida, N. Y., and the Sargent line which has been out on the market by a well-known maker of hardware.

New traps should be examined for defects. Each should be set and sprung several times. If one does not work perfectly, or cannot be made to do so, cast it aside. The loss of a pelt, usually, is greater than the cost of a dozen traps.

Bright traps ought never be set. Rust them first. Some pelt hunters wire their bunch together and bury them for about ten days in black, slimy mud, which leaves them a dull black. Others boil them in a stain made from walnut husks and water. However, new traps will not color by this method unless they are slightly rusted. For snow sets when traps are desired white, use lime and water. Care ought be taken in handling them, for the whiting rubs off easily.

Should one desire to mark his traps—and the idea is a good one should there be more than one trapping in the same neighborhood—it can be done with a file or steel punch. Do not, however, file or injure the springs in any way. This, when it is done, usually results in weakened or broken springs.

In general, do not stake traps when sets are made for such as the skunk, raccoon, or opossum. Fasten the sets to some object large enough that the animals if caught cannot drag it into a hole, yet heavy enough to hold them within a few yards of where they are taken. An immovable fastening often results in the loss of a pelt, due to the fact that the animal can get a straight pull on the chain and work its foot out.

Before making a set, learn all you can about the habits of the various animals. Study their foods, so that if a bait is necessary it can be employed with a reasonable chance of success. Remember, that while some of the animals seem to have no fear of man or traps, some that will walk into almost any kind of a set or go after almost anything in the line of food, other fur bearers will not. Some are so cunning that even the professional trapper sometimes has to use all his ingenuity to take their skins. One instance of the smaller animals is the mink, whose sense of smell is so keen, its animal instinct so well developed, that it finds danger in a single

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Gold plated Locket set with sparkling stone and 22-inch chain, one Netherside Bracelet to fit your arm and three 4 gold plated Rings **ALL GIVEN FREE** for selling only 12 pieces of our Jewelry at 10c each. Write for Jewelry today.
EAGLE WATCH CO., Dept. 6 East Boston, Mass.

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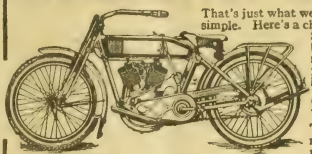

That's just what we mean—given free as a prize. Our plan is easy and simple. Here's a chance to get a motorcycle with the least possible effort. Send us your name for our free plan. You'll scarcely believe us when we tell you how easy it is to get this machine. An easy plan. No fake puzzles to work. If you will give us just a little of your spare time, you can have this machine; but be sure and

Send Your Name Today

This is a genuine twin-cylinder—two-speed, latest model "Indian" machine, the latest and last word in motorcycle making. The machine is a brand new 1915 model and will be shipped direct from the factory so as to insure that you get only the latest and best. Don't fail to send us your name. Our plan is to advertise our business, and if you will help us you can have the machine. It will not require a solid week of your time to get this machine worth $250.00. Isn't that worth a try? Where else can you earn a $250.00 motorcycle in a week? Be quick—that's the main thing—and address **D. BRYDON, MANAGER, R213 S. WITTENBERG AVE., SPRINGFIELD, OHIO**

IT IS TIME TO BE PATRIOTIC
Old Glory Pillow-Top FREE

It seems impossible for the housekeeper to accumulate a sufficient number of sofa cushions or pillows to satisfy the demands of the members of the family. They are much desired by the boy or girl away at college or school, so sofa cushion gifts are sure of a warm and welcome reception. The designs we represent may be outlined in silk, cotton or linen floss or they may be made up without this work since the designs are stamped on the goods in natural colors.

We want particularly to call your attention to the "Old Glory" design. Every home in the United States should have at least one of these flag pillows. These are times when every true American should have a feeling of patriotism and feel that your home is not complete without "Old Glory" in some shape or form. We want every one of our readers to have one of these pillow tops so we will agree to send ONE PATRIOTIC PILLOW-TOP free and postpaid to any person sending **30 cents for one yearly subscription to Farm News.**

All pillow-tops are on tan art cloth and with each top we include 6 skeins of floss.

Address FARM NEWS, Pillow Dept., Springfield, Ohio

An Argo Automobile for $28.50

This Argo Automobile can be won for this small amount of money and I will prove it to you.

This is a subscription contest and is the easiest to win because I permit you to sell three papers for the price of only one. There are contests being conducted by publishers but none like mine. I have the easiest because I realize they must be easy to secure boys and girls, men and women to work. If you will write me today and send for my literature and the names of the winners of my other contests, it will prove everything I say. Write me today saying you want to win this automobile and the many cash prizes I give.

This contest starts at once and lasts only a short time. Write today.

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Dept. F. N. Spencer, Ind.

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This **SLEEPING DOLL** is a great big beauty, **NEARLY HALF A YARD TALL** and beautifully dressed in satin and laces. Has curly hair, pearly teeth, rosy cheeks, closes its eyes and goes to sleep. Beautifully dressed, trimmed underwear, stockings and shoes that can be taken off. You can have this beautiful Doll for distributing only 8 of our handsome pictures at 25 cents each on our special introductory offer.

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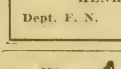

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FREE Band Catalog! Send us your name and address. The 200-page book is free. Thousands of instruments are shown. Rock-bottom prices—easy payments. Generous allowance for old instruments. We supply the U. S. Gov't. Write today.

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EVERYDAY LIFE, Dept. 9C43, Chicago

Aunt Jane's 57

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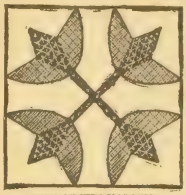

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Selected as the best assortment of popular Quilt-Block Designs. All housewives delight in artistic and unique quilt covers, and the patterns presented in this book will enable the possessor to revel to her heart's content.

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twig near its den when accompanied by the odor of man. A dog taken along the trap line will often spoil it for trapping. Footprints in the mud, marks of sets, etc., all should be covered up as much as possible. In truth, aim to make all sets so that the appearance of the place is natural and not altered in the slightest.

With the possible exception of the skunk and civet cat, none of the smaller animals should be shot after they are trapped, for the reason that the pelts are more or less injured. Stun the fur bearer and then drown it. I have watched some amateurs club game until the head was smashed, to no purpose whatever except to make the skinning harder and less pleasant. The hide, too, was covered with blood stains which, while not directly injurious to the fur, causes the fur sorter to shudder often when grading the catch. Since he is but human, and delights in skins handled well—furs which not only are prime, but look good to the eye—he is bound to give a little more for the pelts which show no blood stains. Hence, it is to the advantage of the trapper to give some little attention to these details if he would realize the "top of the market" when he sells.

RYE AS A COVER CROP

(Concluded from Page 19)

except as a liquid, the various food elements are classified as to their availability or unavailability, according to their solubility. The object of every fruit grower is to increase the amount of available food in the soil for the use of his trees.

Nitrogen is the main element that produces plant growth. The organic acids, produced by decomposing vegetable matter, acts upon the unavailable nitrogenous matter, changing it to compounds that are available or soluble. They also set free the nitrogen stored in the plant's own tissues.

The fibrous part of the plant loosens up the soil. This is a very great factor when dealing with a runny, close-packed clay. It increases the sponginess of the soil, causing a large increase in the water-holding capacity. This is a great help in warding off the evil effects of a drouth.

"Dobbin" and "Barney" vs. Farm Truck

(Concluded from Page 26)

"Of course the truck does not go fully loaded both ways, but it does haul that load over forty-five miles of Michigan roads every day, four miles of which is virgin sand. We have never missed a trip, summer or winter, and these two trucks have been in service for two years.

"Am I making money on the contract? Say, do you see that pile of vitrified tile in the barnyard? They are going into two more of the finest silos that can be built. And by-the-way, my new touring car arrived from the factory last night."

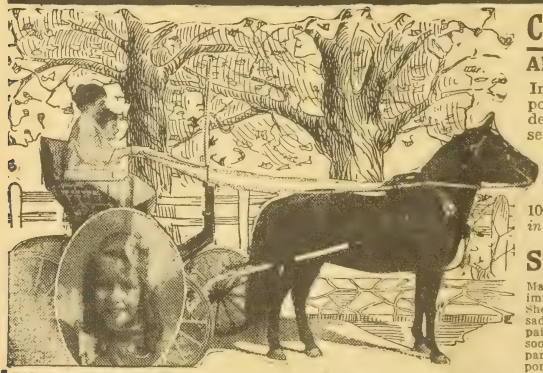
A similar experience is reported by others, who find that aside from the cost per mile of traffic, which is absolutely less with power-driven machines, the items of time, distance and speed are important enough to fix permanently a place for the motor truck as a practical, and even necessary, adjunct to the farming business.

Cows can hear you call them to the stable a great deal better, if they know you have something good for them to eat after they get there.

FREE

POWERFUL AIR RIFLE Length 31 1-2 inches. Working parts of the best grades of steel. Lever action, shooting barrel removable. Use shot or darts. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one to try, as we take back those you can't dispose of. Send us your name and address. **IT COSTS YOU NOTHING** M. O. Seitz, 6048, Chicago

FREE Shetland Ponies



Carriage, Harness, Saddle & Bridle

AND HUNDREDS OF OTHER FREE GIFTS

In the picture here you see Emma Williams and her pony. I gave her the entire outfit. She was the most delighted person in the world. In the picture here are several hidden faces. Can YOU find them? I will give a beautiful Shetland pony, carriage and harness free to the one person who has the greatest number of votes to his credit at the end of this contest. For each face you can find in this picture I will give you 1000 votes. Now this is YOUR chance. *In case of a tie in the votes, a pony will be given to each person so tied.*

SEND NO MONEY— JUST YOUR NAME AND ADDRESS

Mark the location of the faces with an X plainly, and we will immediately enter you as a contestant for this magnificent Shetland pony outfit, which includes pony, carriage, harness, saddle and bridle; all sent direct to your home, all charges prepaid. A more beautiful pony you never saw than this one. As soon as we hear from you we will send you his picture, also full particulars telling how you can easily secure him—besides the pony we have hundreds of other presents we give away.

We positively have a present for everyone who enters this contest! So be sure and send your name in today with the hidden faces all plainly marked and get the free pony votes. It is the easiest thing you ever saw. I have given away over thirty Shetland ponies to boys and girls all over the United States, besides thousands upon thousands of other beautiful presents. BE SURE TO WRITE TODAY, and see how to get the pony

Address MATT YOUNG, Pony Man, 215 South Wittenberg Avenue, SPRINGFIELD, OHIO

A Genuine Rupture Cure Sent on Trial to Prove It

Don't Wear a Truss Any Longer

After Thirty Years' Experience I Have Produced An Appliance for Men, Women and Children That Actually Cures Rupture

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It is instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

Pennsylvania Man Thankful

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—Perhaps it will interest you to know that I have been ruptured six years and have always had trouble with it till I got your Appliance. It is very easy to wear, fits neat and snug, and is not in the way at any time, day or night. In fact, at times I did not know I had it on; it just adapted itself to the shape of the body and seemed to be a part of the body, as it clung to the spot, no matter what position I was in.

It would be a veritable God-send to the unfortunate who suffer from rupture if all could procure the Brooks Rupture Appliance and wear it. They would certainly never regret it.

My rupture is now all healed up and nothing ever did it but your Appliance. Whenever the opportunity presents itself I will say a good word for your Appliance, and also the honorable way in which you deal with ruptured people. It is a pleasure to recommend a good thing among your friends or strangers. I am,

Yours very sincerely,
JAMES A. BRITTON.
80 Spring St., Bethlehem, Pa.

Confederate Veteran Cured

Commerce, Ga., R. F. D. No. 11

Mr. C. E. Brooks,

Dear Sir:—I am glad to tell you that I am now sound and well and can plough or do any heavy work. I can say your Appliance has effected a permanent cure. Before getting your Appliance I was in a terrible condition and had given up all hope of ever being any better. If it hadn't been for your Appliance I would never have been cured. I am sixty-eight years old and served three years in Eckle's Artillery, Oglethorpe Co. I hope God will reward you for the good you are doing for suffering humanity.

Yours sincerely,
H. D. BANKS.

Others Failed but the Appliance Cured

C. E. Brooks, Marshall, Mich.

Dear Sir:—Your Appliance did all you claim for the little boy and more, for it cured him sound and well. We let him wear it for about a year in all, although it cured him 3 months after he had begun to wear it. We had tried several other remedies and got no relief, and I shall certainly recommend it to friends, for we surely owe it to you.

Yours respectfully,
WM. PATTERSON,
No. 717 S. Main St., Akron, O.

The above is C. E. Brooks, inventor of the Appliance, who cured himself and who has been curing others for over 30 years. If ruptured, write him today at Marshall, Mich.

Cured at the Age of 76

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—I began using your Appliance for the cure of rupture (I had a pretty bad case) I think in May, 1905. On November 20, 1905, I quit using it. Since that time I have not needed or used it. I am well of rupture and rank myself among those cured by the Brooks Discovery, which considering my age, 76 years, I regard as remarkable.

Very sincerely yours,
Jamestown, N. C. SAM A. HOOVER.

Child Cured in Four Months

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Brooks Rupture Appliance Co.

Gentlemen:—The baby's rupture is altogether cured thanks to your Appliance, and we are so thankful to you. If we could only have known of it sooner our little boy would not have had to suffer near as much as he did. He wore your brace a little over four months and has not worn it now for six weeks.

Yours very truly,
ANDREW EGGENBERGER.

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You Should Send for Brooks Rupture Appliance

1. It is absolutely the only Appliance of the kind on the market today, and in it are embodied the principles that inventors have sought after for years.

2. The Appliance for retaining the rupture cannot be thrown out of position.

3. Being an air cushion of soft rubber it clings closely to the body, yet never blisters or causes irritation.

4. Unlike the ordinary so-called pads, used in other trusses, it is not cumbersome or ungainly.

5. It is small, soft and pliable, and positively cannot be detected through the clothing.

6. The soft, pliable bands holding the Appliance do not give one the unpleasant sensation of wearing a harness.

7. There is nothing about it to get foul, and when it becomes soiled it can be washed without injuring it in the least.

8. There are no metal springs in the Appliance to torture one by cutting and bruising the flesh.

9. All of the material of which the Appliances are made is of the very best that money can buy, making it a durable and safe Appliance to wear.

10. My reputation for honesty and fair dealing is so thoroughly established by an experience of over thirty years of dealing with the public, and my prices are so reasonable, my terms so fair, that there certainly should be no hesitancy in sending free coupon today.

Remember

I send my appliance on trial to prove what I say is true. You are to be the judge. Fill out free coupon below and mail today.

Free Information Coupon

C. E. Brooks,
1775C STATE ST.,
Marshall, Mich.

Please send me by mail in plain wrapper your illustrated book and full information about your Appliance for the cure of rupture.

Name . . . . . .

City . . . . . .

R. F. D. . . . . State . . . . . .

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Solid Oak Kitchen Cabinet *No. MJ149.* Sanitary "Comfort" Kitchen Cabinet of *solid oak.* Base has white wood table top 41 x26 in., smoothly sanded; handy bread board; cutlery drawer and large utility drawer. Large, roomy cupboard. Top has large china cupboard with 2 art glass doors; metal flour bin, 45 lb. capacity; removable sifter; spice drawer; open cereal cupboard. Rich, golden shade. 67 in. high. **$10.95**

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Price $11.89

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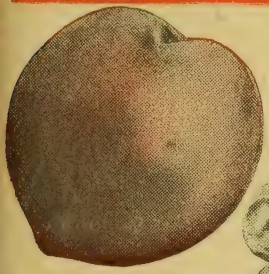
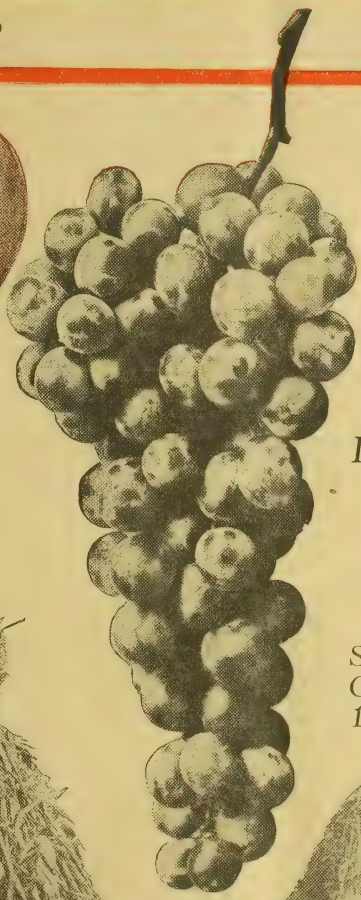
OCT 9 1915

FARM NEWS

All that is New and Best for the Farmer

Springfield, Ohio October, 1915



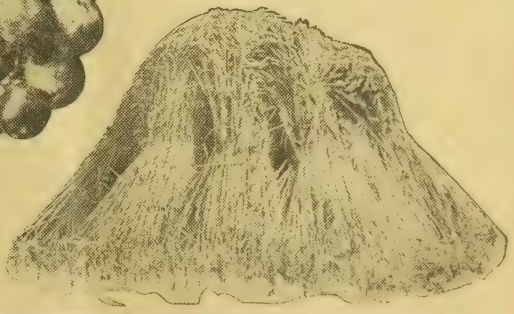


Special Effort Brings the Specialized Product

IN THIS NUMBER

The Auto Truck De Luxe
Story of a Grapevine
Selection of Breeding Hens
The Commercial Hog

See Our Big $5,000.00 Cash-Prize Offer---Pages 16 and 17



With the Editor

Whenever a farmer gets to the point that "a pump-handle don't look good to him," there will be some additions to the farm home which will help to alleviate the work of the housewife. If the average farmer had to pump the water used every day in the ordinary run of household duties, he would soon have a change of heart.

The home canning-industry in certain parts of the country has assumed proportions which make it one of the prominent farm industries. And, the returns from some of these efforts are frequently in excess of the receipts from the regular farming operations. All it takes is one good example in a neighborhood, and the practice soon becomes contagious.

The rate and economy of gains made by silage-fed steers justify the more general adoption of this feed for beef production, especially where pasturage is limited or uncertain. The same is true to a certain extent with sheep. Moderate feeding is the rule, and more careful regard to the quality of the silage. Horses not required for heavy work in winter may have their rations supplemented with silage, but it should be used sparingly for this purpose.

FARM FROST MAPS

Why not make a frost map of the farm? Now is the best time to do it, when the first signs of the winter solstice begin to appear, according to Eric R. Miller, forecaster, U. S. Weather Bureau, University of Wisconsin, Madison.

"Such surveys are a simple thing to make on some morning after an especially hard frost has left its marks upon vegetation," declares Mr. Miller. "With the data obtained from a survey of this kind, or from a series of surveys, it is easy to draw a frost map of the farm for future reference at crop planting time. Crops with an extra long growing season, or with an uncertain date of maturity could then be planted with greater security from early frost damage."

Crops injured by the August frost of this year already serve as indications in the making of a farm frost map, while farmers whose fields have not been touched by the "killer" still have a chance to learn a lesson in frost damage in relation to topography.

EXTENDS COMPETITIVE OFFER

The Goodyear Tire & Rubber Company has decided to extend its special S-V Truck Tire competitive free test offer for another six months. The tests have been so successful that the Truck Tire Department wants to be sure that every truck owner in the country will have a chance to take advantage of the offer if he so desires.

This will make the free offer cover a year instead of the three months originally decided on, and the new six months' period will end April 1, 1916.

Here is the Goodyear offer: "Equip opposite wheels—at the same time—one with a Goodyear S-V, one with any other standard make tire of like rated size bought in the open market. If the Goodyear S-V fails to cost less per mile than the other, Goodyear will return you its purchase price, making the S-V free."

"Among all the thousands of S-V Tires applied under this offer, not one has failed," says C. W. Martin, Jr., Sales Manager Goodyear's Motor Truck Tire Department. "We are more than pleased with the success that has followed the introduction of our free, competitive offer last April, and we have had many requests from truck owners that the period be extended so that they might have an opportunity to try it out. Hence the present announcement."

THE NEW ADVANCE-RUMELY COMPANY

The hundreds of thousands of farmers who read Farm News will be delighted to know that the M. Rumely Company, which has been in the hands of a receiver for some time, has completed and perfected a reorganization, the new company to be known as the Advance-Rumely Thresher Company.

This company, as you know, is one of the oldest, most reliable and best known of all the agricultural implement manufacturers.

Such organizations as these are the very ones that help keep down the price of farm machinery to where it belongs.

The new company says that it has $13,000,000.00 of good assets, and $1,000,000.00 cash in the bank to make a start with, and without a single matured obligation.

This certainly means that the new Rumely Company will occupy a very high position in the agricultural implement field from now on.

Their Main Offices are located at La Porte, Indiana, also Richmond, Indiana, Battle Creek, Michigan, and Stillwater, Minnesota.

We believe such an organization as this new company means much to the American farmer and we are, therefore, in hearty accord with them and wish them success.

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CHEWING TOBACCO

LEADING BRAND OF THE WORLD

"A Chew of STAR is Mighty Good Company"

ITS long chewing leaf and lasting flavor—its gently stimulating qualities, keep you in good humor. The thick STAR plug can't dry up like the thin kinds, so its juicy, mellow tobacco is always refreshing.

Men Who Chew Are Men Who DO

You'll be joining some of the brightest minds and strongest bodies in the country when you give STAR a fair trial. It helps you think or it helps you work.

10c Cuts *16 oz. Plugs*

Liggett & Myers Tobacco Co.

STAR was awarded the Grand Prize at the San Francisco Exposition, and is the only chewing tobacco that has ever received this highest possible award.

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Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXV **OCTOBER, 1915** **Number 10**

SAVE THE CORN CROP

Danger of Enormous Loss if Immature Corn is Not Properly Cared For

SOFT corn, prematurely frosted, will be the problem which many farmers in the corn belt will have to face this fall. Prematurely frosted corn will not ripen naturally. The high percentage of moisture content sours, and remains in that condition until cribbing time.

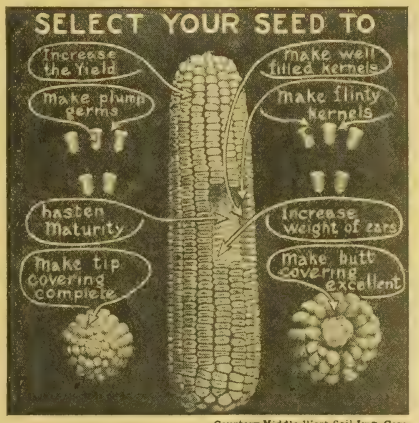
The best way to deal with the situation is to provide plenty of ventilation—plenty of means for the evaporation of the moisture from the immature corn and cobs. There are a number of effective ways to secure satisfactory ventilation, and in providing the means, each farmer must use the method best suited to his conditions. The higher the moisture content, the greater demand for rapid and effective ventilation.

Upright ventilators, 4 to 6 inches square, placed from four to six feet apart, lengthwise of the crib, will help in rapid evaporation. Some prefer the horizontal method, and it can be made to do the work as effectively as any other. Other methods are usually elaborations of these two simpler methods. But the main thing this year is to ventilate, and see that whatever method is used does the job, thoroughly and well.

GATHERING AND STORING SEED CORN

It is not necessary that corn should be dead ripe before harvesting in order for it to germinate next spring. Every ear of corn intended for seed purposes should be harvested before the severe fall freezes, and then stored where it will dry out and keep dry. A box nailed to the wagon, into which every promising ear is thrown when husking early in the season, is a method practiced by many in securing their seed corn, but it is better to go through the field row by row, with a sack or basket, and select such ears as appear to be all right, then sort out the best at the barn.

After having been properly grown and selected, seed corn may be greatly reduced in vitality by injudicious care during the winter. It is the vitality of the seed, and the nutriment stored in the grains, that sustain the young plants during their first week of growth. Any means that secures a thorough drying of the seed ears soon after they are harvested before freezing weather, and keeps them dry until the seed is planted, will be a success. Though the ears be thoroughly dried, they will not remain so if exposed to a saturated atmosphere. The kernels absorb moisture, and if exposed to changes in temperature while moist, their vitality will be lowered.



Courtesy Middle-West Soil Imp. Com

Tie and hang up the seed ears the same day they are brought in, so that the air may begin to circulate among them at once. It is free circulation of air that is needed to dry out the seed. An upstairs room in the dwelling house, where the windows can be opened to give circulation of air during November, is a good place in which to hang the seed corn, if there is no good storage room at the barn. Some people object to storing the corn at the house, because of its attracting rats and mice, but it will not attract these rodents when strung on wire and suspended from the ceiling in the middle of the room. Mice and rats cannot reach it then.

The dairyman's business is peculiarly one of pennies. The price per gallon is usually so little as to make any waste at all a loss. Getting the very last drop is often the only profit in the business, while a "star" boarder is the item which changes the balance to the wrong side of the ledger.

The farmer who says that he is not interested in the earnings of the city wage-earner is not wise, for upon this man's earning capacity depends at least 80 per cent of the farmers' market. It is high time that the farmer began to understand how closely his interests lie to those of his city brother.

By the time this reaches some of you, your corn will have fallen a victim to Jack Frost. And this probably before some of you have taken the opportunity to select your seed corn for next year. Every corn-grower, who is at all familiar with his business, knows that corn ripens unevenly, and that there are always ears in advance of the average.

HANDSOME SURPRISE GIFT FREE

To every person who sends us the correct number of times the word "SEND" appears in the advertisements in this number of FARM NEWS, we will send a Handsome Surprise Gift, FREE and PREPAID. Send no money. Just see how many times you can find the word "SEND," tell us, and if it is correct you get the present. It costs you nothing to try, so see if you can't get this Handsome Surprise Gift. Send your answer to the

SEND EDITOR,
Farm News,
Springfield, Ohio.

Contest closes November 1, 1915.

Easy to Put On

Hard to Wear Out

The Roof That Stays and PAYS!

THERE'S **one** roof the elements can't get the better of—**one** roof that won't fly off or wear out in a hurry—**one** roof that stays and PAYS. It is an

EDWARDS Metal Roof

Costs less in the first place. Easier to lay than a wood shingle roof—a man with hammer does it all. Lasts five times as long. Always tight—that's because of the patented Interlocking Device and "Tightcote" process. No raw edges. No spots to rust or rot. Each sheet completely dipped in molten metal. Covers all edges as well as sides.

Other Advantages

And a $10,000 Guarantee Bond insures you against lightning loss. **All styles and sizes.** Edwards Metal Roofing comes in handy sheets all ready to lay. Goes on with hammer and nails **—Then your roof is on for good!**

It will pay you to write for Bargain Catalog No. 1060 Give size of roof for complete estimate of cost. Write today—**now** — while prices are still down.

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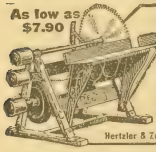

$10,000.00 Backs This Hertzler & Zook Portable Wood SAW

This is the cheapest saw made. Only $7.90 saw frame to which a ripping table can be added. Guaranteed 1 year, money refunded and all charges paid if not satisfactory. Write for catalog.

Hertzler & Zook Co., Box 38, Belleville, Pa.

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Selecting the Breeding Hens

Marks That Tell the Story of Big or Little Egg-Production

By Roy E. Jones, Conn. Ag'l Station

A GREAT many people are asking the question, "When and how shall I pick out my breeding hens to improve egg-production?" This question should rightly receive careful consideration, as it is usually the deciding factor between profit or loss on the commercial farm.

The first question is, "When shall we pick out the breeders. Is there any one time of the year when a high producer can be distinguished from the low producer?" I think we can safely say "Yes."

Heavy production leaves it mark, and we can select the highest producers in the late summer and fall with a fair degree of accuracy. If selection is left until just before the breeding season in the spring, a great many of the high-producing characteristics will have disappeared, and we will be working in the dark.

Second, "How shall we pick out the high producers?" We must admit that the trapnest is the only accurate way of obtaining records. The trapnest does more than simply give a record of egg-production. Without the trapnest we see our birds as a flock; with the trapnest we see and study them as individuals. It is this close acquaintance that has enabled us to detect certain characteristics which always appear in high producers. Some of these characteristics are as follows:

1. Late moult and rough appearance.
2. Pale shanks, beak and ear lobes.
3. Widespread pelvic bones.
4. Capacity, full crop, distance between end of breast bone and pelvic bones.
5. Quality, thin pliable skin over breast bone and abdominal cavity.
6. Activity, first down in the morning and last to roost at night.

Growing new feathers and laying eggs demand practically the same kind of food materials.

It is evident then, if a hen is to make an unusually high year's record, she must postpone moulting until after that year has been completed. There are sometimes a few hens in a flock that moult slowly and lay irregularly at the same time, but they are very few. It is safe to take a flock in August, that is to be used for breeders the coming year, and cull out all that are moulting or have grown a new coat of feathers. Should these hens be kept over with the belief that early moult means fall and winter production the results would be very disappointing. The birds that lay late in the fall often moult and begin to lay again as soon as those that moult early. The high producer must be found in her working clothes during August, September and October.

2. We pick out the birds with pale shanks, not because they are naturally that way, but because the color matter has been used by heavy production.

The color used in the yolk of the egg is taken from the body. Continued production will bleach out shanks, beak and ear lobes in all breeds where these parts are supposed to be yellow. After production stops the color slowly returns, consequently a test in the spring would be worthless, where a test in August, September and October is very reliable. Even though production was good it is probable that birds kept on good range, with plenty of green feed, would show more color than those kept in bare yards. However, the birds in any flock are comparable, and the best layers are easily detected. All birds with bright yellow shanks and beak in August may as well be sent to market, for in all probability they have not paid their board for the past year.

Most hens could be happy and do good work under these conditions, because the man who keeps poultry like this would also use care in selection and feeding

3. The pelvic bones in a bird are the long slender bones projecting back either side of the vent and between which eggs must pass.

The present laying condition of the bird may be judged by the spread of these bones, in terms of one, two, three and in some cases four fingers wide. The bird with a spread of two fingers or more may be picked out as a good layer, provided other indications are favorable, while those with a spread of only one finger may be safely discarded. The best layers usually have slender, pliable

pelvic bones, while the poor layers have hard, rigid bones, even though they are spread during production.

4. The bird that is a high producer must have a vigorous appetite and a large capacity for converting food materials into eggs.

The bird with a large appetite can be picked out on the roost at night by the size of the crop. The capacity of a bird may be judged by the shape of the body. The jointed ribs allow the rear part of the body to expand downward, taking on a wedge shape, as the digestive system and reproductive organs demand more room. This spread may be judged by the distance between the rear end of the breast bone and the pelvic bones. A bird spread from heavy production should not be confused with one spread from being over fat.

5. The high producer invariably shows what we might term as quality, that is, soft pliable skin over breast bone and abdominal cavity.

The skin of the non-producer, or the bird out of condition, will have a hard, leathery or drawn feeling.

While the shape of the overfat bird may indicate capacity, the body cavity is filled with fat, rather than organs of digestion and production, and the skin is lacking in that quality which appears in the high producer.

6. The activity of a bird is a very good indication of production. The high producer must have more to eat of everything that a hen requires for production, consequently she is the first down in the morning and the last to roost at night. She will range farther and is always looking for something to eat.

The practical application of these methods of picking out the laying hen can be easily carried out by any one after a little experience. Do not depend on any one of them, but look for them all in one bird, and you will have a high producer. A very good plan is to go over the flock once a month in August, September and October. On each inspection put a band or some distinguishing mark on each bird that measures up to the requirements of high production with late moult, pale shanks, beak and ear lobes, widespread pelvic bones, large capacity, quality and activity. For the best breeding pen use only the birds that have measured up to the highest requirements.

FATTENING POULTRY

It will certainly pay the farmer to fatten his fowls before sending them to market. Hens on range are never as fat as they should be, and, in discriminating markets, will not take the top quotation. The gain in fattening poultry is two-fold: The hens not only increase in weight, but the quality of flesh is greatly improved, specially fattened poultry in discriminating markets often bringing three or four cents a pound more than poultry that is marketed in ordinary condition.

Two or three weeks before they are to be marketed, the birds should be penned and fed a special fattening ration. A good fattening ration is composed of two parts corn-meal, one part middlings, one part ground oats (with hulls sifted out), and one beef-scrap. When the ingredients of the mash have been well mixed, the mash should be "wet down" with skim milk or buttermilk. The mash should be thin—so thin that it will drop from the end of a spoon. The birds should be fed all they will eat of this mash three times a day. While not feeding, the house where the birds are confined, should be kept darkened in order to keep the birds as quiet as possible and prevent unnecessary moving about. The quiet, inactive hen is the one that fattens quickly.

When the appetites of the birds begin to clog, as is shown by their consuming a less quantity of the mash, the birds are ready for market.

Specially fattened poultry can usually be marketed to better advantage when dressed. When shipped alive, the birds will lose some of the added weight by the time they reach the market, and besides, the fat and plump condition of the fowl is not as apparent in a live fowl as it is in one dressed.

EGGS ARE "FANCY"

When fresh, clear and full bodied.

When shells are sound, clean, bright and of uniform color.

When they weigh 24 ounces or more to the dozen.

It pays to produce and market fancy eggs.

In the winter time, when the roads are bad, wo do not hear of so many automobile fatalities.

FRESH AT NIGHT

If One Uses the Right Kind of Food

If by proper selection of food one can feel strong and fresh at the end of a day's work, it is worth while to know the kind of food that will produce this result.

A school teacher out in Kans. says in this connection:

"At the time I commenced the use of Grape-Nuts my health was so poor that I thought I would have to give up my work altogether. I was rapidly losing in weight, had little appetite, was nervous and sleepless, and experienced, almost constantly, a feeling of exhaustion.

"I tried various remedies without good results; then I determined to give particular attention to my food, and have learned something of the properties of Grape-Nuts for rebuilding body, brain, and nerves.

"Since using Grape-Nuts I have made a constant and rapid improvement in health, in spite of the fact that all this time I have been engaged in strenuous and exacting work.

"I have gained twelve pounds in weight and have a good appetite, my nerves are steady and I sleep sound. I have such strength and reserve force that I feel almost as strong and fresh at the close of a day's work as at the beginning.

"Before using Grape-Nuts I was troubled much with weak eyes but as my vitality increased the eyes became stronger.

"I never heard of another food as nutritious and economical as Grape-Nuts."

"There's a Reason."

Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

GRAND PRIZE
Panama-Pacific Exposition
San Francisco, 1915

GRAND PRIZE
Panama-California Exposition
San Diego, 1915

For Flavor and Quality

BAKER'S COCOA

IS JUST RIGHT

REG. U.S. PAT. OFF.

It has the delicious taste and natural color of high-grade cocoa beans; it is skilfully prepared by a perfect mechanical process; without the use of chemicals, flavoring or artificial coloring matter. It is pure and wholesome, conforming to all the National and State Pure Food Laws.

Caution: Get the genuine with our trade-mark on the package

Walter Baker & Co. Ltd.
Established 1780
Dorchester, Massachusetts

Screwed on in Bad Weather
Removed when the Roads are Good
Your horse is ready when you are ready if you use
RED TIP CALKS
Sudden freezes or sleet storms have no terror for the man whose horses are shod with Red Tips. RED TIPS are there when YOU NEED THEM. No delays, no danger of falls. On or off in 20 minutes. Send to-day for Booklet ti
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NEW BRUNSWICK, N. J.

DON'T Pay Two PRICES
HOOSIER Stoves & Ranges FREE

To try in your own home for 30 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can buy the best at Actual Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. All HOOSIER STOVES Guaranteed for Years. Send postal today for large FREE Catalogue, showing large assortment to select from. No Obligations.

HOOSIER STOVE CO.
129 State St., Marion, Ind.

THE AUTO TRUCK DE LUXE

Being One Equipped With Modern Appliances For Sanitary Transportation of Fresh Food Products

By L. M. Beck

A FARMER who has risen from the ranks of day laborer to owner of a general farming and fruit growing business, said to me several days ago: "This is the age of slippin' away and comin' forward." In reply to my questioning eyes, he explained that he meant the horse was slipping behind and the motor truck coming forward. And, looking at the matter from the efficiency standpoint, rather than that of sentiment, it is much better so.

There is an insistent call from city and country to "get together." The tie between producer and consumer must be knit closer, if both are to be advantaged. This means more quickly covered distances, as great or greater carrying capacity within a given time limit, endurance rather than tiredness, ease of operation, and reduced upkeep charges. The motor truck fills this bill.

The horse must be fed every day, the truck uses gasoline only when being operated. The motor truck, even when heavily loaded, can travel fifteen miles an hour, the team's limit, under like conditions, is four miles. If constantly kept in condition—which means the oversight of the owner or driver, having common sense combined with average mechanical ability, with occasional trips to the service depots for inspection —it is good for at least eight crowded years of service.

It may not be able to carry a heavier load than a large horse-drawn wagon, but it can take the same size loads so much more quickly that it is actually doing the work of several teams at less operating expense. Time saved is also money earned for the busy owner.

The farmer has just as much right to figure close for his financial benefit as any city man, and so the cost per ton-mile is the final comparative unit for both. The city is a beehive of delivery trucks; the same will be true of the country in time.

"But a truck is costly," you say. My reply is yes—and—no. The initial cost is greater, but that met, it is more than evened by reduced upkeep charges, extended usefulness, lessened labor, and trebly greater mileage in the same length of time the horse-drawn vehicles consume.

The following are illustrative reasons for the emphasized "no," for example is fully as interesting, and often more valuable, than precept. Those mentioned, as well as the other owners, use trucks because it pays to do so.

Refrigerator compartment containing butter, milk and other perishable products

The hotels Gayoso, Peabody and Chisca are profit yielders to their owners. And, so they tell you, one of the big reasons why they are is because everything which is labor-saving, expense-reducing, and space-annihilating, is adopted and followed. Therefore came the "From Farm to User" motor truck. This two-ton carrier is equipped with a standard make of ice-box, holding 1400 pounds of ice, in which table supplies are carried. The bulkier things are hauled in the open truck.

Then, for its advertising value, it was conspicuously lettered, as shown in the illustrations. The farm is located at Horn Lake, Mississippi, twenty-five miles outside Memphis, where the hotels are. The roads the truck travels are sandy and hilly, but they are always covered with ease and dispatch. Trucks can be as elaborately equipped as buyers desire, or furnished in the regulation models.

Every owner should be awake to its advertising value, for if people know about you, and what your business is, they are naturally more interested than if they had no means of knowing you or it were in existence. Your farm is entitled to be known of buyers.

The Farmers' Union, operating a co-operative dairy at San Jose, California, owns a two-ton general utility truck which it uses in the collection of cream and delivery of its product.

Portland, Oregon, is the center of a wonderful fruit country, and on Apple Day, 15 tons of apples were delivered by eight cars in three hours over a territory twelve miles long and eight miles wide.

Another example is from the Dallas, Texas, region where a one-ton truck is doing the work of three teams — doing in two hours what it formerly took a team one-half day to do. It also costs less than one-half

(Continued on Page 15)

The fact that Gayoso Farm deals in registered Guernsey cattle and Hampshire hogs is known to every person who sees this truck

These Goodyear Tires Made Extra-Large

Sizes 30x3½ and 30x3

We are this year giving special attention to users of small-size tires. There are about a million of them. And the tire we build would win them all if all of them could know about it.

$317,000 Added

This year we are building these tires larger than ever. We've increased the air capacity by 20 per cent. Added size means added mileage, as every user knows.

We have added 30 per cent to the rubber in the side walls just above the bead. That's where constant bending taxes tire walls most. And where thin-walled tires often chafe and break.

20% More Capacity
30% More Strength
In Side Walls

We have made new molds to improve the tire's design. For we have found a new shape which increases endurance.

These three additions will add to our tire cost $317,000 this year. Yet this year we made another big price reduction—our third in two years, totaling 45 per cent.

Four-Ply Tires

Even the smallest Goodyear Automobile Tires are four-ply tires—even size 30x3. And our anti-skid tread—the Goodyear All-Weather—is double-thick on all.

So Goodyears have always been exceptional tires. They won on sheer merit the top place in Tiredom, and for years have outsold any other.

Now we add 20 per cent to the air capacity and 30 per cent to the rubber above the bead. And we give you a better design. We are building by far the most capable tires ever built in these small sizes.

So even the occasional mishap and misuse will find new strength to combat them.

Get These Extras

The value we give in Goodyear tires is due to our mammoth output. Get that value—it is due you. Smaller, thinner, lighter tires can't serve as Goodyears do. Even last year's Goodyears, though the leading tires, could not compare with these.

Any Goodyear dealer will supply you. Every neighborhood has a Goodyear Service Station with your size in stock, and it renders full Goodyear Service.

(2648)

THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

Makers of Goodyear "Tire Saver" Accessories; also Goodyear "Wing" Carriage Tires and Other Types

THE STORY OF A GRAPEVINE

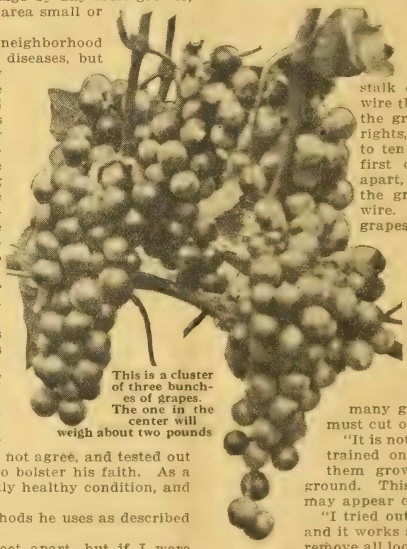
By L. M. Johnson

THE man whose hobby is fruit growing can do really remarkable things. Such a one is James A. Dicus, of Springfield, Ohio. His work has been done upon about one-half acre. While this plat of land seems small to the farmer owning acres, it has proven amply large to demonstrate that his ideas of fruit growing are both wise and practical. And these proven to be good methods are such as can be followed to advantage by any fruit grower, for results are results, be the land area small or large.

Many fruit trees and vines in his neighborhood are afflicted with scale and other diseases, but these have so far never actually stormed the fences separating the yards and attacked his vines and trees. While he absolutely refuses to even casually mention, or pay any attention to your inquiring remarks about the great difference between these three adjoining yards, you inevitably come to the conclusion that precaution, constant study, and care are the battle array he opposes to possible invaders—who so far haven't dared to come across line fences.

While he grows apple and pear trees, he also devotes much attention to raspberries and strawberries. His grape culture, with its consistent and steady growth, is worthy especial mention.

There is one vine, two years of age, which he was assured he had much better cut down, because it was too old, and too much afflicted with grape vine ailments, to ever amount to anything. Mr. Dicus did not agree, and tested out his methods using work and care to bolster his faith. As a result the vine is today in a perfectly healthy condition, and bearing heavily.



This is a cluster of three bunches of grapes. The one in the center will weigh about two pounds

These are the grape cultural methods he uses as described in his own words.

"My vines are planted twelve feet apart, but if I were doing it over I should plant ten feet apart. The object in closer planting is, that grapes grow larger on the ends of vines than they do in the center when planted a long distance apart. By planting vines closer together, the grapes in the center will compare with those on the end of the vine.

"Sometimes I raise from cuttings. Nursery stock, however, is generally adopted; the two-year being best for planting.

"In planting vines I dig a large hole, not less than two feet in diameter, two feet deep. I remove all clay, and fill in with rich soil, being careful to see that all the roots are laid straight, dirt firmly packed, covering the top of the ground after planting with well-rotted natural fertilizer.

"The ground must be kept cultivated around the vines for a space of at least two and one-half feet in diameter. I cannot too strongly urge frequent culutivation, at least every two weeks up to about September first, when I stop the cultivation. By frequent cultivation you destroy some of the pests that injure the grape vines. The pests referred to are those which deposit their eggs in the ground, to propagate and hatch out in the spring to the injury of the grape vine.

"In training my vines I prefer the high renewal system, as shown on the accompanying illustration. I grow two canes from the main stalk of the vine, and run them along a wire that stands about twenty inches above the ground. From these canes I run uprights, keeping these uprights from eight to ten inches apart. The wires above the first one I place about thirteen inches apart, and for the first two years I grow the grapes between the first and second wire. The third year the growth of the grapes can be extended up to the third wire.

"When the uprights have extended about three or four joints above the bloom I pinch off the ends of these uprights, and allow them to grow no higher. I pinch off all of the suckers or intermediate growth that grow out from the uprights. My experience has been that you cannot raise a large amount of wood on your grape vine and have many grapes. If you want the grapes you must cut out the wood.

"It is not necessary, when the grape vines are trained on the high renewal system, to have them grow higher than five feet above the ground. This enables you to see any pests that may appear on your vines.

"I tried out a new thing on the vines this year and it works splendidly. I find it a good thing to remove all loose bark from the vines in the spring. After bark has been removed paint all the wood with lime-sulphur, about twelve to forty. Some wash the vines with a strong solution of fish-oil soap, which I have also used to advantage. Wash in spring before buds open. Both painting with lime-sulphur and application of fish-oil soap must be done in early spring.

"All trees and vines require proper pruning. A tree or vine lives through its bark, and when the vine or tree shows the smooth bark, a strong healthy foliage results, and there is less danger from blight or other disease that vines and trees are subject to. You have furnished resistance strength.

"It is a good thing to always remember that the little things need looking after."

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FALL CARE OF DAIRY COWS

After the poor patient cow has gone through the heat and fly season, trying to get a living out of the short pastures that prevailed during the past season, it is the essence of cruelty to expose her to a pitiless cold rain all day and night, just because she is thought to be tough, and will make milk under any condition.

Last fall I talked with a farmer soon after an all-day, cold rain, and he told me that his cows had shrunk over one-half, and supposed that they would not "come back" again that season. They had been exposed to that rain. Why should they have "come back?" They robbed their bodies that day to produce what milk they did give, and they certainly were poor and depleted in flesh, far below what they should have been at that time of year.

This man had provided for the comfort of his hogs, and had given them extra feed that day, but thought it too much work to give the cows the care they needed to hold up in the production of milk. His horses were fine. I asked him how he kept them so well. "By giving them plenty of feed and good care," was the reply. I believed it.

"When the busy season is over what do you do about their care?" I asked.

"Why I stable them nights and stormy days, and see to it that they have feed enough to keep in good condition."

I agreed that that was the proper way to treat his horses, but why not apply the same rule in the case of the cows. He thought that cows were tougher. Again I agreed that his cows were about as tough looking as any I had seen in a long time. Why will some men reason in that manner? The horse, the steer, and the hog, if they have sufficient feed, always place a good layer of fat under the hide, hence they can stand cold that will make the old cow hump up and shiver. Why? Because faithful as she is, she puts the fat in the milk instead of on her back, and the cruel man will take this fat from her, and send her out to a scant pasture in a cold rainy wind to search for food to make more milk, while the fat hog snoozes in comfort, with an abundance of feed, and the sleek horse stands or lies in his well-bedded stall, with his rack full of hay, and his feed box filled three times a day.

Now a cow cannot make her owner any profit unless she is well taken care of, and has plenty of milk-making food given her. It takes a certain amount of food for bodily maintenance and it is the food eaten over and above that amount from which the profit is derived. Furthermore, the more a cow eats, digests and assimilates the larger the profit, provided she is a good milk maker. All animals which are to be kept through the winter should be in good flesh at the start, and the cow is no exception.

I do not believe in feeding too much corn to the dairy cow at all times of the year, but in the fall I feed corn pretty freely. I like to get my cows in as good flesh as possible, and nothing will put them in this condition so well as corn, in connection with other suitable foods. Make a balanced ration at this time of year, then add a little more corn, and see if it doesn't pay. Keep the cows in the stable during the day as well as at night, if the weather is stormy. Fill them to their utmost capacity, so that when they lie down they will fairly groan with satisfaction.

A farmer told me that he thought he was feeding his cows pretty heavily one fall, when one night they broke out of the yard, and each one ate about a bundle of corn from what he had on a wagon. The next day he got considerably more milk. This convinced him that he was not feeding enough. In the fall the new corn is soft and easily digested, and what is not used for milk-production, the cow will put on her back to protect her from the cold of the coming winter.

Theorists will tell us to feed other feeds rather than more corn, but it is a condition that confronts us at this time of year and not a theory, so plenty of silage should be fed, and if it is not well-eared, more snapped corn should be given in addition. The cow likes this, and she knows, or seems to know, that it will provide her with a good overcoat under the skin to ward off the cold and keep in the heat. Make her quarters warm and comfortable, and then see to it that she is kept in them on all disagreeable days. Thus fed and cared for her owner will be well repaid in an increase in the yield of milk and better condition of the cow. I am perfectly sure of this from practical experience. There is no other animal on the farm that works any harder than the really good dairy cow, and, one year with another, there is no other more profitable, if she is given the right kind of care and all she needs of good feed. —U.

INDIVIDUAL FEEDING

In a manufacturing plant each machine turns out as much of the finished product as it is capable of turning out, and to do this it must have the required raw material in proportion. The dairy cow is, in a sense, a machine, and, to a larger degree than some seem to think, her output depends upon her feed.

But there is another way of looking at it: The amount of feed which may be profitably given the cow depends largely upon her production. The quantity of food must naturally be regulated according to the yield of milk. A cow giving 60 pounds of milk per day requires more feed than one giving 20 pounds per day. Yet there are many herds in which each individual animal gets the same amount of feed, regardless of the amount of milk produced.

Like the machine, there is a limit to profitable consumption with the cow.

If a cow gives three times as much milk as another, on the same amount of feed, and the cow giving the larger quantity is fed enough to maintain the animal body without loss, the cow giving the lesser amount must make poor use of her food, must waste considerable of it in digestion, and must be an unprofitable animal to keep in the dairy. Where all cows are fed alike, some of the animals must get an insufficient quantity, others must be overfed, and very few in the herd receive the right amount for best results.

The partially starved cow must have a weakened mammary gland, and the decrease in milk flow is accelerated thereby. Not only does this have a detrimental effect upon the cow herself, but exerts a marked influence upon her progeny. The mammary gland of an overfed cow becomes fat, and thus the cow's productiveness is injured, as well as that of her offspring.

Nutrition, or feeding, should then always be individual. That is, food should be fed to the cows proportionate to the amount of milk produced. Provided the cows are in good thriving condition, the quantity of food given should be such that they neither gain nor lose in flesh.

In large herds it is not an easy matter to feed each cow a different amount, according to the amount of milk given, but this may be approximated by dividing the herd into groups, each individual in a group giving nearly the same amount. It is comparatively easy to group the cows with respect to production, and thus with respect to feed. Every herd of any size contains animals which stand practically the same as regards production. These do all right fed the same quantities. But every herd also contains groups of animals vastly different as to production.

There is the 3,000-pound cow, the 5000- to 6000-pound cow, the 8000- and 9000-pound cow, and the 10,000- to 12,000-pound cow. Grouping the animals according to production for feeding purposes, while not exactly individual feeding, is very near it, if the grouping is properly done, and cannot help being an improvement on collective feeding. It stands to reason that it takes more feed or energy to produce 12,000 pounds of milk than it does to produce 6,000 pounds, and that the cow producing the latter amount requires more than the one from which only 3,000 pounds is received.

Feeding should also be done with a view to the quality, as well as to the quantity of the finished product. Dirty mangers or feeding troughs, musty and strong-scented food, have a very bad effect upon the milk and butter, and too much care cannot be taken to eliminate all such conditions from the feeding of dairy cows. The success with the herd depends very largely upon the success of each individual going to make up the herd, and the success of the individual depends on the feed and care given, such feed and care to be regulated to suit the individual, not a general average for the entire herd.—U.

IT SLUGS HARD

Coffee a Sure and Powerful Bruiser

"Let your coffee slave be denied his cup at its appointed time! Headache—sick stomach—fatigue. I know it all in myself, and have seen it in others. Strange that thinking, reasoning beings will persist in its use," says a Topeka man.

He says further that he did not begin drinking coffee until he was twenty years old, and that slowly it began to poison him, and affect his hearing through his nervous system.

"Finally, I quit coffee and the conditions slowly disappeared, but one cold morning the smell of my wife's coffee was too much for me and I took a cup. Soon I was drinking my regular allowance, tearing down brain and nerves by the daily dose of the nefarious beverage.

"Later, I found my breath coming hard, had frequent fits of nausea, and then I was taken down with bilious fever.

"Common sense came to me and I quit coffee for good and went back to Postum. I at once began to gain and have had no returns of my bilious symptoms, headache, dizziness, or vertigo.

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PREPARING THE DAIRY BARN FOR WINTER

One of the tasks which confronts the dairyman is that of keeping the dairy barn in proper condition in winter time, when the cows necessarily spend the greater portion of their time within doors. The dairy barn cannot be kept in a healthy condition without regular attention, and upon this, to a very great extent, the successful production of milk and butter in winter depends.

The two things necessary are, to keep the animals in perfect health, and to produce a plentiful flow of sound wholesome milk. To this end the sanitary arrangements must be kept in order, of course, and they need continuous supervision. The first essential in a dairy barn is that it shall be well ventilated, and no one must fall into the error of believing that cows will do well in close quarters, provided that these are well aired in the day-time by means of open doors and windows. It is no doubt beneficial to air the barns thoroughly by day, and open doors and windows have the effect of brightening up and freshening the inside of the barns in a wonderful manner. But this is not enough, and no barn in which cows are kept is complete without a proper system of ventilation. The cow enjoys fresh air as much as any of the animals on the farm. Drafts in the

(Continued on Page 30)

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Garden and Small Fruits

By Charles H. Chesley

CROPS THAT GROW IN OCTOBER

Cabbage—Cabbage makes considerable growth after the first of October, hence the work of cultivating, even as late as this in the fall, is not entirely lost. On the contrary the heads will fill out better if a hand cultivator or hoe is kept at work during the first half of the month. This is for the latitude of the Ohio River and farther north. Of course, cultivation can be kept up much later farther south, until in the southernmost states, where cabbage grows all winter.

Cauliflower—Cauliflower heads during October better than earlier. We never attempt to get it before the middle of September, and we find that plants that have shown no signs of forming heads at that time, often grow quickly as the cooler days come on. When the plants shows signs of begining to head, we tie the leaves carefully together, first sprinkling with fine table salt. This helps in a measure to repel the green worms, which so quickly spoil the growth if left unhindered. If the leaves are not tied over the heads the growth is brownish or purplish, and of coarse quality. For the latest supply of cauliflower the leaves are tied early in October. Cauliflower, like cabbage, will stand a considerable amount of frost without injury.

Brussels Sprouts—This plant is not grown as much as it should be. Even if one is not in the business for market, it is well worth growing for home use. It is grown in much the same way as cabbage and cauliflower, but is hardier than either. We sow the seed in July, and encourage the plants to make a tall and sturdy growth during August and September, but it is not until October that the little heads begin to form in the axils of the leaves. Cultivation should be kept up with this vegetable until well into October.

HANDLING WINTER CELERY

Early celery is more easily blanched by the use of boards than by any other method. During the warm weather, earth draw up to the plants will cause them to rust. Not so when the weather becomes cooler. That portion of the crop which is to be used or marketed after the severe frosts have begun to occur, can be blanched by the use of soil, and at the same time be protected from injury by freezing. Celery that is blanched in this way possesses a better flavor than that which is blanched by the use of boards.

Early in the fall we bank the celery high, after tying up the plants, and when cold nights begin to occur we cover the patch with straw or hay. If the weather is not too wet the celery will keep in perfect condition until needed for the Thanksgiving market. Should continued rains come on, it may be necessary to take it up and set in the trenches in the cellar. Sometimes, however, even in November, we find a day warm and pleasant, and in that case we remove the covering for a few hours and allow the moisture to dry out.

We store the celery in the cellar, as we happen to have one that has a dirt floor. Trenches are dug sufficiently deep to practically place the plants below the ground, where they are placed closely together and the soil packed about them. The average cellar is moist enough to start the plants into growth. This is necessary in order to thoroughly blanch the stalks. The trench method of blanching can also be used outside if a cellar is not available. Choose a spot that is well drained, and dig the trenches as in the cellar. Set the plants in the same way, leaving perhaps two inches of the tops above ground. Spread a covering of straw over the whole, and when the weather gets cold, and the ground begins to freeze, cover the whole with a foot of strawy horse manure. In this way celery can be kept in good condition until midwinter, and some of it will be all right until spring. Storing celery successfully depends upon moisture and freedom from frost.

STARTING THE SMALL FRUIT PATCH

In the central states and farther south the bush fruits, such as raspberries, currants and gooseberries, are best set in the fall. Farther north spring-set plants are more liable to live and flourish. On the average farm, if these fruits are considered at all, they are consigned to some obscure fence corner, and given little or no attention. Under such circumstances it is no wonder that we hear many say it does not pay to grow small fruits. Our experience has been that, with proper care, raspberries and blackberries are as profitable as anything on the farm. This, of course, presupposes that there is a market not far away. However, if there is not an available market, we would advise every farmer to set a few bushes to supply the home. A considerable quantity can be consumed by the average family in the shape of fresh berries and the canned and preserved products.

All the bush fruits require much the same methods of cultivation. In general it may be said that the soil should be well prepared, either by previous cropping and fertilizing, or by careful plowing and harrowing. We prefer land that has been cropped for two or three years, rather than newly turned sod, as it is easier to handle and usually contains more readily available plant-food for the use of the bushes. A rich sandy loam makes the best soil for small fruits, and we would choose a gently sloping hillside, if possible. This assures good drainage.

Clean cultivation should be practiced in the small fruit patch, and pruning will be necessary, beginning with the third year. Raspberries and blackberries are hard to keep within bounds after a few years, but if the land between the rows is plowed every year, and all superfluous sprouts and suckers cut away as often as twice a year, the work

is less difficult. Once the patch is neglected for a year or two, the task is hopeless, and it is almost as well to start a new plantation.

As to varieties suited to different localities, one should be governed by the recommendations of his state experiment station. There are, however, a few varieties that do well over a wide territory. The Cuthbert raspberry is more generally planted than any other of the red sorts. The Gregg is an excellent black variety of raspberry. Of the currants Fay's Prolific is one of the best.

FALL WORK IN THE GARDEN

When the garden has done its work for the season it should be carefully cleaned, all dead vines and leaves being removed or burned. We believe it is a good plan to return as much of the unused vegetable matter to the soil as is practical, but such things as old cucumber and squash vines are better out of the way. These should be burned, as many hibernating insects make their home in such material. Ashes from these fires, as well as wood ashes from the kitchen stove, are profitable to scatter over the onion bed.

A good deal of the vegetable waste can be used to best advantage on the compost heap. The well-appointed garden should have, over in one corner, a plot where humus-making material is constantly being dumped. The garden must have humus (organic matter), and the most economical way to provide it is through the compost heap. In the fall it is well to add a load or two of manure from the cow stable. The entire mass will heat during the winter, and in the spring it may be worked over and mixed, forming an excellent dressing for broadcasting, using in the hill or for potting plants in the greenhouse.

If no compost heap has been made in the past, it is a good time to start one this fall. First spread a layer of leaf mold from the woods, if obtainable, next a layer of manure, adding anything in the line of beet tops, dry leaves and other vegetable matter that it is possible to obtain.

Never leave old boards or other waste material around the garden. Many injurious insects seek such places to spend the winter. If they hibernate close to the garden, they will be pretty sure to be there early next season to claim their toll. The squash vine borer and cucumber beetle spend the winter in old vines, therefore, it is advisable to burn such refuse. Where cutworms are much in evidence, fall plowing will help in some measure to thin them out. The same is true of white grubs and wireworms. Potato beetles spend the winter in the ground. Deep plowing of the potato land, late in the fall, kills many of them.

Fall plowing works well in a garden that is deficient in moisture. By opening up the soil in the fall the rains are allowed to percolate through the clods, and a good deal of the moisture is stored up for the following summer. Plowing also serves as a mulch, which keeps the water in the subsoil from evaporating. If the garden is naturally well supplied with moisture, fall plowing is not so important.

David J. Palmer

Commander-in-chief
Grand Army of the Republic

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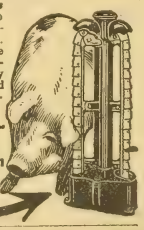

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BE A DETECTIVE
Write WAGNER, 1243 Lexington Ave., New York, Dept. 132

The Commercial Hog

Another Acid Test in Its Development as a Money-Maker

By Lester J. Meredith

SUCCESSFUL feeders have learned quite thoroughly that they must feed a balanced ration, that they must have protein for the maintenance of growth, and carbohydrates for the purpose of supplying heat, energy and fat. The question is how to supply the growing pigs with a suitable ration that will produce maximum results at a minimum cost. For convenience and economy, I say unhesitatingly, that it is best to provide yards and pastures sufficiently large to furnish them with plenty of green food, and give the pigs an opportunity to exercise while they are harvesting the grass and forage crops.

These forage crops should be supplemented with grain to balance the ration, and to prevent an abnormal development of the stomach and intestines at the expense of other more desirable development. The grass-fed pig, like the whey-fed, pot-bellied calf, is an example of poor development. We should avoid extremes in feeding young breeding swine. Pigs should be allowed to rustle a little to develop stamina and trait of character, and make the best of their opportunities. But this does not mean to compel them to subsist on grass and forage alone. One extreme is almost as injurious as the other.

A good, even development of all parts of the growing pig is what we are striving for, and this must come from eating a ration that is properly balanced. There must be a proper relation between the protein and carbohydrates, and there must also be a proper relation between the amount of concentrates and bulky feeds to bring the best results. These relations must be fixed from time to time by the feeder, according to food values, kind of feedstuffs at hand, and the conditions under which the pigs are being fed. Where an abundance of forage is available it sometimes pays better to feed bulk and protein to some excess, than to increase the cost of the ration by buying expensive concentrates to make a strictly balanced ration.

I have never been able to make up any rations for growing pigs that would produce as good results as one in which skim-milk made up about one-fourth of the mixture. With a suitable variety of farm-grown feeds, one can readily change the proportions of the feeds as his observation and judgment suggests. To get the best results he must cut away from fixed feeding standards, and vary the rations as the growth and development of the pigs appears to demand.

Nor is it possible to figure out a ration so well balanced, without pasture and forage crops, as to promote the best growth as will result when the ration is supplemented by a daily run of a field which furnishes succulent and bulky food. From weaning time until the pigs are six months old protein is the most important element in the ration. Corn is nine-tenths carbohydrates, oats contain more protein than corn, but not enough to meet the requirements of the growing pigs. Rye is richer in protein than oats, but as a pig feed barley excels all the above, and is a sure crop in many sections where corn rarely matures. Clover and alfalfa are highly nitrogeneous, but too bulky to suit the needs of the pigs. Cowpeas, soybeans and field-peas are well suited for pork growing where they can be grown. Various localities can produce feeds that may be used advantageously to balance up the ration. Linseed-oil meal, middlings, tankage and other supplementary feeds have their place in economi-

Clean, well-kept yards, a balanced ration, and an opportunity to rustle, brings the answer in top-notch pork

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

cal pig feeding, but the amounts must be regulated by the variety of farm-grown feeds at hand and the prices of these supplemental feeds in nearby markets.

Pigs up to six months of age need a growing, not a fattening, ration. Regular feeding is one of the essentials to a steady growth, and three feeds a day is better than two, and while following this method it is advantageous to feed only what will be cleaned up with a relish. Always bear in mind that the most valuable asset of the six-months-old pig is about 120 to 140 pounds of bone, muscle and vigor, aided and supported by a natural, keen appetite.

From the fifth to the sixth month should be the period of preparation—that is, the time when we are getting the pigs used to their fattening ration. During this period I have always obtained the best results by feeding plenty of corn, and allowing the bunch the run of a field of clover, alfalfa or cowpeas. In this way their digestive systems become accustomed to the changed diet, and by the end of the month they are in ideal condition to make good use of all the corn they are capable of handling. At the end of this period the pigs should weigh 165 to 175 pounds, and be well rounded out.

During the last two months, the finishing period, the frame and digestive capacity previously built up, in the making of which a variety of feeds is so essential, is loaded with fat, a process in which corn produces the cheapest gains. Notwithstanding that corn has been the object of much criticism by theoretical hog feeders, yet the fact remains that corn and water will produce more economical gains than mixed feeds. Mixed feeds may produce greater gains, but the quality of the pork is not so good, and the shrinkage while on the road to market is greater than is the case with corn-fed hogs. If the pigs are well-bred at the beginning, and handled in this manner, they should be capable of reaching a weight of from 250 to 300 pounds at eight months of age. Unless the feeder is approximating those weights he is not doing his best.

The Auto-Truck De Luxe

(Continued from Page 6)

of the former horse upkeep.

A truck is not a good investment unless five horses have been kept. But when much hauling is to be done, especially over bad or hilly roads, and where time is money, it is a paying investment.

Co-operative dairies, for instance, own motor trucks, and find they are dividend earners, and so, personally, I am wondering if neighboring farmers could not devise a method by which they could own a motor truck co-operatively. Or, if that is not locally desirable, if a farmer owning one could not arrange to act as common carrier upon occasion the year round, but particularly during rush season.

An important thing for possible truck buyers to remember is to purchase from a reliable, heavily capitalized and established firm. This precaution insures prompt replacement of broken parts, first-hand service station supervision, which makes your interest their interest, and the manufacturer's friendly co-operation.

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

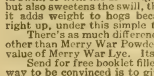
MERRY WAR LYE

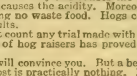
in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.





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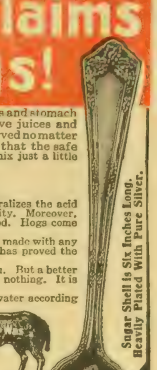

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We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

For Sale Everywhere *None genuine without the words* "MERRY WAR" *and the picture of hog on the label.*

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Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

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Write your own and dealer's name and address plainly.

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Prepare as **FIREMEN, BRAKEMEN, ELECTRIC MOTORMEN, TRAIN PORTERS** (colored). **EXPERIENCE UNNECESSARY.** All large, standard roads. Uniforms and Passes furnished. 300 wanted. No strike. Write now.

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To be Given Away in 503 Rewards

Music-Titles-Picturegame

of FAMILY Magazine is open to Readers of FARM NEWS

Readers of FARM NEWS like to win prizes and will enjoy the wonderful opportunity now offered. The tremendous sum of FIVE Thousand Dollars will positively be distributed to winners and the full rewards will be paid in cash, actually as promised, to each winner. This Picturegame is being conducted by the FAMILY MAGAZINE, a large, reliable, financially responsible publishing company, **and this Picturegame is open to all readers** of FARM NEWS. Read the information below; then fill out the coupon on the next page, send to us and you will receive full particulars.

TO PLAY IN THE MUSIC-TITLES-PICTUREGAME will be very easy. There are 60 pictures, for which titles are to be found in the Catalog that **will be available to participants.** Look at the two pictures below and the four pictures on next page; they will give you an idea how to set about solving the Family Music-Titles-Picturegame.

$1,500.00 in Cash—The First Reward—One thousand five hundred dollars—will be won by somebody; why not you? **Just consider what you could purchase** with this large sum. Or, if you put th money at interest, it will bring you one dollar an seventy-five cents a week throughout life and sti your principal ($1,500) will remain intact.

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Winter Pastime—No matter how busy yo may be during the winter months, you surely ca spare an hour or so each week to study the 60 pic tures and compare them with titles in the Catalog.

FULL INFORMATION will be given about pre paring your list. The sooner you cut out and sen **in the coupon on next page,** the sooner you'll know just how to play and enjoy the fun.

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$1,500—First Reward will be paid in cash.
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$125—Fifth Reward will be paid in cash.
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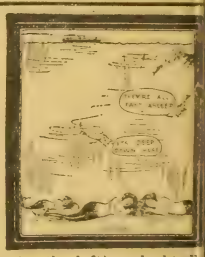
$75—Seventh Reward will be paid in cash.
$50—Eighth Reward will be paid in cash.
10 Rewards of $25 each in cash.
25 Rewards of $10 each in cash.
460 Rewards of $2.50 each in cash.

How Ties Will be Settled

In the event of an ultimate tie, each tying contestant will receive the full reward just as if there were no tie.



The first picture shown above (to the left) undoubtedl represents the title "Old Oaken Bucket." That is a more fi ting title than, for example "Dixie." Possibly there is som other title, however, that really is just as suitable as, or ever more suitable than "Old Oaken Bucket." You will find th titles in the Official Catalog, containing about 4,000 name of songs and other musical compositions. By the aid of th Catalog you can, in connection with the 60 pictures in th Music-Titles-Picturegame, earn $1,500, or some other gener ous reward. See the excerpts from the Catalog printed as a sample on the next page.

The second picture shown above obviously represents th well-known song-title "Asleep in the Deep." Do you think it could represent any other title? Well, you are the one to find out. Surely it is worth while getting into practice, so that you may win a cash reward. All members of the family may join in the fascinating game.

Every Member of the Family is Invited to Participate in This

Profitable, Pleasant Game

Great Money-Making Opportunity

Will Give You Delightful Recreation and Add to Your Knowledge

YOU WILL UNDERSTAND the Family Music-Titles-Picturegame very quickly. It is so very simple. Just think of any picture or illustration you have ever seen. Didn't it have a name? If it did not have a title, wasn't there a sentence or two underneath the drawing, giving the words to accompany the picture? Well, then, you can easily fit a title to a picture especially when you have a Catalog of titles to help you.

GREAT FUN making up suitable titles for the 60 pictures in the Picturegame. You just take the pictures and then go through the Catalog and pick out the title or titles to the pictures that you think best fit them. It's very simple and easy.

THIS IS HOW TO PLAY—Look at the four pictures to the right of this page. These are samples. Give each of these pictures a name. The name must come out of the Catalog. Suppose the list of titles below were the whole Catalog. Run your eye up and down until you find a suitable title for the first picture. Do the same for the second, third and fourth.

Look Up in the Catalog What You See in the Pictures

Here are Some of the Titles You Will Find in the Catalog

Asleep in the Deep	Evening Star	Kentucky Babe
Baby Mine	Face to Face	Last Hope
Barn Dance	G. A. R. Patrol	Last Rose of Summer
By the Sea	Garden of Roses	Maiden's Prayer
Calvary	Hearts and Flowers	Old Folks at Home
Casey Jones	Hello People	Old Oaken Bucket
Chopsticks	Home Sweet Home	Rock of Ages
Comin' Thro' the Rye	Hiawatha	Silver Threads Among the Gold
Dixie	In the Gloaming	Teasing
Dreaming	Jack and Jill	

In above list find titles for the sample pictures on the right. This is good practice. Fill out the form below for full information about the Music-Titles-Picturegame; 503 persons will win; $1,500 is the first prize. You may win it. Write in to us today.

FULL INFORMATION will come to you if you will use the coupon at the bottom of this page. You will be told how to consult (or to obtain for yourself) the necessary Catalog, as well as about the 60 pictures, the convenient way of writing down and sending in your answers, the complete Rules and everything else you need to know. Remember the $1,500 cash first prize. It is worth trying for. There is nothing to prevent your winning. Get on the right track by mailing in the application form below at once.

FILL OUT THIS BLANK

Fill Out, Cut Out and Mail Us This Coupon

Farm News, Dept. 333. Date.....1915.
Springfield, Ohio.

Having read the advertisement of the $5,000 Cash **Music-Titles-Picturegame** and wishing to have full information about it, I apply for complete particulars.

Name—(Mrs.)
(Miss) .....
(Mr.)

Full Postal Address.....

.....

This Coupon may be cut out or copied and sent with name and full address to

FARM NEWS, Dept. 333, Springfield, Ohio

1. This represents the title of a song which is well known by everyone.

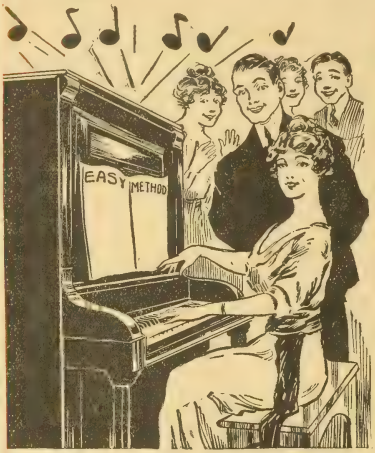
2. This represents the title of an old favorite song.

3. A famous Southern song.

4. A well known sentimental song.

NOTE:—The titles are all you need to know. Find them in the Catalog. Isn't this an interesting game?

Learn to Play Piano or Organ in One Evening!



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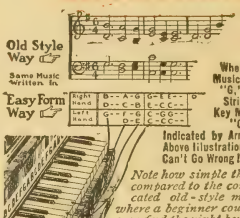
The "Easy Form" way is simplicity itself. No puzzling marks to study out, no mystic symbols and Chinese-looking characters to confuse you. With this new method you don't have to know one note from another. Yet in a single evening you can play your favorite music with all the fingers of both hands, and play it well. It's so simple that it might justly be called

SHORTHAND IN MUSIC



Note how simple this is compared to the complicated old-style music, where a beginner couldn't even find the right key.

No more spending of years in study and practice. Why? Because music has now been simplified so that anybody who can read printed letters — C-D-E-F-G-A-B-C — can read the new "Easy Form" music at a glance, and the keyboard guide which is placed behind the keys shows you where to put the fingers of both hands on the right keys every time.

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You don't have to take anybody's word for "Easy Form," either. We think the best way to prove it is to let you, yourself, be the judge. You can't doubt its value when you have learned to play by this method in a single evening.

Therefore, we have decided to show our faith in "Easy Form" by sending the complete system—full instructions—100 pieces of standard music (all the favorites) and keyboard guide—upon receipt of the coupon, without asking for a cent of money.

5-DAY TRIAL FREE

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We have thousands of letters like the ones printed below, telling how quickly and easily people who didn't know one note from another learned to play by the "Easy Form" Music Method. It is so simple that there is no chance for mistake or failure—and the trial is absolutely FREE.

"I could play the first piece in 40 minutes and never tried a note on the piano before."—Mrs. S. Standling, Winnipeg.

Prof. J. A. Quarrington, teacher and musical director of Toronto says: "Any person, old or young, with a fair amount of common sense can play any selection in this method within an hour or two, even though they knew nothing about music before.

LEARNED SIX PIECES IN ONE HOUR

I have practiced only about an hour and can play a half dozen pieces of Easy Form" music. The instructions are very simple and I like it. Have tried the old way, but find this much easier.
FANNIE LEE RICH, Alma, Georgia.

MUCH EASIER THAN EXPECTED

I found your "Easy Form" just as you said. I think it is great and much **easier than I thought.** I do not doubt a firm when they will send their goods before they get their money.
E. R. BARNES, R. F. D. 2, San Marcos, Tex.

PLAYS 11 PIECES IN A WEEK

I received "Easy Form" music last week and am much pleased with it; it certainly is far ahead of note music. I can play eleven pieces from "Easy Form" already, and I find it so easy. Wishing you success,
DANIEL A. McDONALD, Box 83, Waterford, N. S.

MOST COMPLETE METHOD EVER KNOWN

I received "Easy Form" music and **played several of the pieces right away.** It is the most comprehensive method I have seen. I enclose payment in full.
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Have had "Easy Form" four weeks and was out of town one week. I practice about fifteen minutes daily, and can play several pieces as good as my sister-in-law, who has taken lessons seven years.
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1620 4th Ave., N. Mason City, Iowa.

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I think "Easy Form" is wonderful. I am glad I have found a way to learn and not be bothered with a music teacher.
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Do you play old-style note music?.....

How many white keys are on your piano or organ?.....

FEEDING PULLETS

By T. Z. Richey.

Many farmers—perhaps it would be safe to say, most farmers—make the mistake of keeping the pullets and the old hens in the same flock. When this is done, one of two evils may be expected: Either the pullets will be underfed, or, if the pullets receive sufficient food, the old birds will be overfed, to the extent that many will become too fat to lay. When beginning to lay, and for a time after starting, the pullet is yet immature, and the food consumed must not only make eggs and keep up the bodily forces, but must also make additional growth. For this reason a laying pullet should be given all the food she will consume. There is little danger, so long as full maturity is not reached, of feeding pullets too much.

The pullets and old hens should be kept in separate quarters for another reason. The old birds will lord it over the younger ones, fighting them and keeping them away from the food troughs and hoppers. These domineering actions on the part of the old hens will keep the pullets in a nervous, excitable state that will retard development and egg-production.

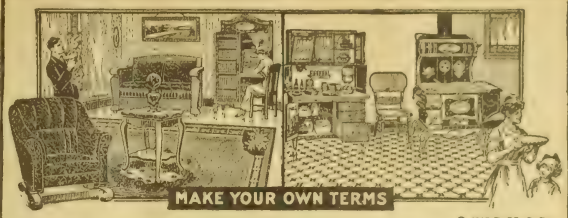
While it is advisable to feed pullets all they will eat, it should be borne in mind that part of the food supplied should be bulky in character. The feeding of nothing but concentrates, such as corn and wheat, can never result in the best egg-production, and is always attended with danger. One-half the food consumed by the pullets should be in the form of a ground mash, either dry or wet, or both. A good mash is composed of two parts bran, one part each corn-meal, middlings, ground oats (with hulls sifted out), and one part beef-scrap. In feeding pullets it is perfectly safe to let them have access to the food-hoppers all the time.

The pullets should be made to take exercise. Strong vigorous health and good egg-production are not possible without exercise. The first food of the day should be grain, fed in deep litter. The litter should be eight or ten inches deep, so the pullets will have to exercise vigorously in order to get every grain. If the litter is shallow the birds will soon find all the grains, and their appetites being satisfied, they will loaf around until next feeding time.

Many feed the wet mash as the first food of the day. When this is done, the birds will fill up with food early in the day, and thus will not get sufficient exercise. The wet mash, if fed at all, should not be fed until noon, or some time in the afternoon. Just before roosting time, the pullets should be fed all the whole grain they will consume. The idea in feeding pullets is to keep them slightly hungry, until just before dark, when they should be fed to repletion.

Grit, charcoal and oyster-shell should be kept before them all the time, and they should be given all the green food they will consume at least once a day.

Wet and unseasonable weather conspired to make the melon crop in the Central-West a failure. his was a sad blow to many city residents, who always appreciate these luxuries, and are content with fruit picked partially ripe and ripened in transit.



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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Weaning the Farm Colt

To keep the colt growing without interruption during weaning time and afterward is a most important consideration in producing horses profitably. A good horseman aims to replace the milk that the colt has been accustomed to secure from its mother. He tries also to reduce the worrying and fretting of the colt to a minimum. To wean a colt appears to be a simple matter. It is simple as many do it; yet the very low degree of success that is shown on many farms by their unthrifty colts is evidence that there is something wrong or that there is something lacking. Often in a few weeks during weaning time the youngster changes from the growing, sleek, milk-fat colt to a stiff-haired and unthrifty, stunted individual. The colt if properly cared for, need lose but little of his flesh, bloom and spirit.

GRAIN TO BE FED

Grain must be used as the milk is taken away. It is necessary that the colt have been taught to eat grain before weaning is attempted. Oats have always been preferred by horsemen for young colts. They are undoubtedly superior to any other single grain. The colt likes a mixture or a variety of grains and will thrive best on such a ration. He relishes corn and it may well be fed as part of the grain ration. It may be said that corn contains a rather high percentage of fat. True it does and so does milk which is as nearly ideal food as nature can make. Corn should not be fed alone, nor in too great quantities. Bran is a splendid feed and contains material for bone and muscle. A mixture of oats 60 per cent., corn 30 per cent., and bran 10 per cent. makes a ration that will enable any colt to grow rapidly. A handful of oil meal may be profitably added. Then he will be more likely to eat enough to almost make up for the lack of milk.

Hay should be provided in plenty. Doubtless alfalfa or clover is the most desirable for young growing colts. Both grain and hay should be of the very best quality. If it is at all possible to furnish succulent grass for the colt it should be done. This is a big factor in preventing any check in the growth of the youngster.

COMPANY OF OTHER COLTS

Naturally the colt will miss the company of his dam. If he has been accustomed to stay in the stable or yard while the mother is out at work there will be less fretting on that account. If the youngster has followed the dam constantly and has never been kept separated from her, he should be broken gradually to stay away from her if it is at all convenient to do so.

If there are several colts on the farm it is best to wean all of them at the same time. The youngsters love company and if there are two or more of them together, they will fret and worry less.

The stall or pen where the youngster is confined should be such that he cannot injure himself. The door and fence should be high enough so that he will not try to jump out. Nothing but a clean and comfortable place with plenty of sunshine and proper ventilation should be used for the colt during weaning time. It should be made possible for the colt to exercise freely every day.

MANAGEMENT OF THE DAM

Just before weaning it is best to change the dam from succulent pasture to dry feed. If she is being fed grain the amount should be reduced to a minimum. This will have a tendency to reduce the milk flow. The colt should then be allowed to suckle only two or three times per day instead of being with the mother all the time or at least over night. It may be necessary to milk out the mare occasionally for a few days, in the case of large milk producers and where there is a tendency for the udder to swell. Having done these things it will be comparatively simple and easy to keep the colt away from the mother entirely without injury or handicap to either the dam or her foal.

Having made the change slowly and gradually the youngster will not miss the milk greatly. He will eat grain and hay, will take exercise and will grow without any set back. If he is kept healthy, thrifty and growthy, the very best of results will follow.—H. E. McCartney, Assistant in Animal Husbandry Extension, Purdue University Agricultural Experiment Station.

FALL MOUNDING OF TREES

Water, in freezing, expands about one-ninth. Anyone, who has ever wrapped rags around the bursted water-pipe until the plumber could come, knows what a tremendous power that little one-ninth can exert. Let that same power work against the tender tissues of tree bark and there is no one but can readily realize what the result will be—a serious, if not fatal, injury.

Three years ago, in one of the biggest peach orchards of southern Ohio, borers were dug during the late fall. Before one-half the orchard was worked over freezing weather set in. The little basin around the crown of each tree was not filled in. One day there came a heavy, soaking rain, followed by a hard freeze. Today one can tell to the very row, and nearly to the very tree, where the fall work had stopped. About seventy-five per cent of that section of the orchard died. And that meant seventy-five per cent of ten acres of a thrifty, five-year-old orchard.

The blame could not be laid to the digging of the borers, but to the leaving of water-catching basins. Water had puddled there during the rain, frozen and crushed the soft bark and cambium layer of tissues of the trees. Such trees were effectively girdled.

There are many causes for such basins. Whatever the cause may be, do not allow the tree to go into the winter with such a menace surrounding it. Fill up the depressions. Do more than merely fill them up. Make a mound or watershed around the trunk.

We count mounding up to our trees as one of the essential parts of our fall work. Three or four shovelsful of dirt are thrown around each tree, making a smooth, sloping watershed.

In the case of small trees, the mound also acts as a support against the heavy winter winds, keeping them more upright.

There are a thousand reasons for changing our plans for next year, but most of us can't think of one.

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Prizes For All

Besides Shetland Pony Outfits The Farmer's Wife Pony Club gives hundreds of dollars worth of other prizes to Club Members. No matter who you are or where you live if you send us your name and address and join our Pony Club you will be sure to get a nice prize. The sooner you write us and find out about our Pony Club the better prize you will win and the better chance you will have for the finest prize of all—"Glory" and her elegant outfit.

We Have Already Given 326 Ponies

We have made 326 children very happy by sending them complete Pony Outfits so everyone knows that The Farmer's Wife Pony Club really gives away Shetland Ponies and will give "Glory" to you or some other child. Write your name and address on the coupon below and mail it to us and we will send you a letter and tell you all about "Glory" and how you can win her for your own. It costs you nothing but a postage stamp to find out how you can win this wonderful prize, so do it now.

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The Farmer's Wife Pony Club,
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Please send me at once pictures of "Glory" and her outfit and the names of the 326 children to whom you have given ponies. I want "Glory" or another pony.

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The HOUSEWIFE

A MESSAGE TO YOUNG MOTHERS

By Mrs. L. H. Palmer, Wisconsin

Young mothers too often make the mistake of putting off to some vague future the privilege of personal gratification. You perhaps feel that when the children are grown up, and gone from home, that you will have more leisure to enjoy life. That you will have time to read, attend lectures, and cultivate your taste for music—in short to fill your life with all that is beautiful and enjoyable.

A rude awakening will be yours when that time arrives, for the home deprived of the music of young voices becomes so still that you can almost hear your heart beat, and there are no glad voices to welcome your return home, no one to share with you the beauty of the flowers or the melody of singing birds.

There will be time and leisure, but the zest, the eager anticipation, the keen enjoyment, are all things of the past. There is no time equal to our young days to enjoy the beauties of life. No enjoyment equal to that which is shared with our loved ones. The sweetest blessings are those shared with our children, whose delight enhances our own a hundredfold.

You can make no greater mistake than to shut yourself out of your children's lives. Keep in touch with all that concerns or interests them. There is nothing so real, that will fill your heart with such holy joy, as to be a part of the budding life around you. Accept the message of one whose children have long been gone from the home nest, that the sweetest, bravest time in life is when every faculty is expanding to meet the demands of your rapidly developing family.

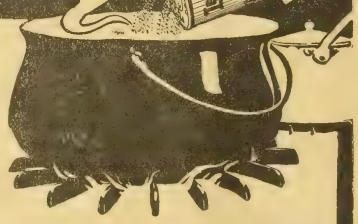
Study to keep abreast of them, not necessarily in text-book knowledge, but in passing events and progressive ideas. Children appreciate very much a mother who is up with the times, and can be relied on to always present a pleasing appearance, and meet all emergencies with a quiet dignity that makes her mistress of the situation at once.

Keep in loving sympathy with their personal affairs. Remember your own young days, and take counsel from your youthful follies and safeguard your children, not by wet-blanketing their desire for fun, but by giving them every legitimate amusement at your command. Every child should be taught that he is a part of the home life, and must do his full share of the labor in the home, that each has his duties and obligations which must be fulfilled to the letter.

Home life, to be ideal, must be cooperative, each member rendering unto "Caeser, Caeser's due." Or, in other words, give courteous, loving service to each other. The children should understand that mother and father are entitled to instant and unquestioning obedience. Do not weakly yield to their importunities for privileges once denied, for you will meet no sharper critics than your children, and unless you measure up to the standard of good judgment, and ring true on all questions of right, you will find that you have been weighed in the balance and found wanting, and have lost their confidence and respect, and with it that reverent love that all children naturally have for mother.

Cultivate high ideals, and instill into the minds and hearts of the little ones love for the beautiful, and a strong sense of the need of right living. Fill the home with flowers, music, laughter and sweet companionship. The home should be as fine as circumstances permit, but build no false altars on which to sacrifice nobility, happiness and comfort. The arrow of ambition should point to the loveliest star in the constellation, a happy home. Illume life's sometimes rugged path by gathering up the falling star-dust along the way and after life's meridian has been passed, looking back through the vanished years, you will give thanks that you gathered your roses when they bloomed.

Prize Winning SOAP



THERE'S a reason in back of these Prize Soap Making Contests that are being conducted by farm papers all over the country.

Your grandmother and your mother made their own soap because they could not buy it. You should make it because it is much cheaper and because you know it is pure.

You know that the grease that goes into it is clean — that there are no adulterants, and if you use

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you know that the grease is perfectly saponified—this means ***no free alkali.*** In short, your home-made soap is the same as your mother made and that you used when you were a kiddie. Lewis' Lye is the same as it was sixty years ago, just as pure, just as strong, just as reliable. You take no chances of ever spoiling a batch of soap.

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Manufacturing Chemists Dept. 18 PHILADELPHIA, PENN.

FOOD FOR YOUNG CHILDRPN

By Mrs. J. J. O'Connell

It often is very puzzling to a mother to know just what to feed the babies and small children. The intelligent, conscientious mother knows that babies should not be permitted to sit up at the table and eat the same food as their elders. Baby's stomach was not made to digest rich, heavy or greasy food, and the moment he is given such things harm is being done to his whole system. Though he may be able to survive the barbarous feeding for a while, trouble is sure to result at some time.

After a child has been weaned from the breast or bottle, and begins to eat solid foods, great care should be exercised in his diet. One thing to remember is that his bill of fare should be varied but simple. The child of two years can with safety be fed cereals with sugar and rich milk, soft-boiled egg, meat broths from which all fat has been removed; occasionally a little very tender white meat of fowl, and potatoes, preferably baked, but never fried.

In reference to potatoes, it might be said that they should not be given too frequently, as they are very starchy. Rice is an excellent food for children and may be prepared in many ways to tempt the little folks' appetite. Dried peas, if soaked over night, boiled until tender, put through a sieve, and a little milk and a pinch of salt added, make an excellent soup for children. There are few breakfasts better than a bowl of whole-wheat bread and milk for the young child.

All children should receive a certain amount of fruit. For the young child, sweet orange juice, prune pulp, scraped apple, dates and figs, are all excellent regulators of the digestion. One of the most nutritious desserts for a child is gelatine flavored with fruit juice, preferably orange.

COLOR IN HOME DECORATION

When redecorating, the most important consideration is the wall color. Whether tinted or papered, the wall color should be a dull, soft color, making a proper background for pictures and furnishings. Br'ht wall colors are never restful or pleasing in a room.

Figured wall paper should not be used as a background for pictures, it draws attention from the picture and is confusing.

As a rule, warm colors are best in north rooms, such colors as yellow, pink, light brown, yellow green and copper red. Red should never be used in a pure tone on a whole wall.

Rugs, floors and woodwork should be darkest, the walls next, and ceiling the lightest. Walls should not be too dark. With a low ceiling put the picture molding next to the ceiling. A drop ceiling makes a room look lower and should only be used with a very high ceiling.

Tans, light browns, and dull or sage greens are good for the living room. In the dining room use green or dull blue on the south, or copper color on the north. A little red is good in the hall. Adjoining rooms should harmonize in color. Red in one room and green in the other are not good. Light colors give a fresh and airy effect in bedrooms.—Nellie M. Kilgore, Col. Ag. Col.

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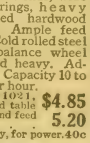

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The Efficiency of Blasting

In Redeeming Cut-Over Land, Removing Stumps, Boulders and Other Immovable Obstructions

By Rich Lucas

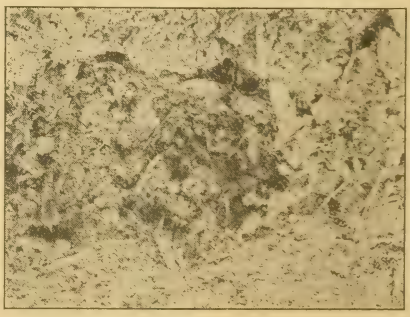
A SMALL insignificant looking stick wrapped in paper may not attract the eye nor cause much thought, and yet, just one such stick contains enough latent power to wipe out in the fraction of a second that which has taken years of time for its creation.

Dynamite can accomplish much by its force to aid man in his many walks of life, but it is for the clearing of land from stumps and boulders that I have found it very valuable, for it does the work well, quickly and at a minimum cost. After land has been cleared of trees there still remains the stumps, which by their extensive root system, spreading over a large underground area, makes the farming of this land hard and tedious.

Showing green stump afterward removed by blasting

Although not generally known or realized, it is a reliable fact that an average square foot of land, properly handled, will produce one cents worth of crop, and as the average stump takes up some twenty-five square feet, we can figure on the average stump costing us some twenty-five cents or more per year. These figures only apply to loss of crop, while to this amount must be added the breakage of machinery and the cost of time it takes us to farm this stumpy and rough land.

Part of all stumps and many boulders are buried beneath the surface of the ground and cannot be seen, thus causing extra trouble. For these reasons the most efficient and up-to-date machinery cannot be used, but inadequate tools must be substituted. Again, I find these stumps make an ideal harbor for bugs and insects of various kinds. So comparing the many disadvantages of such land with the few dollars and cents necessary to have them thoroughly cleared away, the outlay is really a negligible factor.



Appearance of the ground where the stump stood after blasting

I was recently clearing some land and to remove the stumps I decided to give dynamite a trial. After using it for some time I found I was removing the stumps at a minimum of cost and labor. After carefully noting results, I found that for the largest green stumps I could save considerable powder by placing several charges under various portions of the stumps, connecting them together and firing with an electric blasting machine. Also, I found that a lower grade of powder could be used satisfactorily. For removing dead stumps and boulders, I obtained excellent results by using the cap and fuse method. By increasing or decreasing the strength of dynamite being used, or the size of the charges, the size of the pieces of stumps or rocks blown out could be regulated. They could be lifted out in large pieces, or blown to smaller ones, as found best suited for handling.

A few trees were left standing on this land, and being in too much of a hurry to finish the clearing before crop time, I did not cut them down, but by carefully placing the charges I was able to lift the remaining trees out of the ground, root and all.

I now have this recently wooded piece of land entirely cleared, and as it is mellow and loose and contains a good supply of humus and available plant food, it is being very easily handled, and the crop now being grown on this once unproductive land is doing well. So, if seasonable conditions are favorable, a very good yield will surely be obtained this fall.

THE FALL MANAGEMENT OF MEADOWS AND PASTURES

On the great majority of corn-belt farms, the fall treatment of meadow and pasture lands receives too little attention. It is often possible to affect the profits of the farm materially by devoting special attention to this phase of farm management. If grass and clover are sown with the small grain, the new seeding will be greatly benefited by the application of light dressing of farm manure. If the supply of manure is not sufficient to go over the whole field, special attention should be directed to encouraging a thick stand where the grass and clover has failed to come on and make a satisfactory stand.

As a general proposition, the best way to treat young meadows is to allow the grass to grow undisturbed during the fall months, though if it becomes infested with noxious weeds it will be well to clip them back early in the fall, and allow them to serve as a mulch during the winter. This will destroy the seeds, and assist in keeping the meadows free of ragweed, foxtail and other weeds that may injure the crops of hay that follow.

The practice of allowing stock to tramp over new meadows in the fall should not be encouraged. In wet seasons the rank growth of grasses and clovers often seems to justify its use for pasture, but the sod is not yet formed, and the ground is sure to be puddled or made rough by the trampling of the stock, while many of the small plants will be pulled up by the roots. If the season is dry, close grazing exposes the tender roots to the sun and wind, and prevents the forming of a mulch that holds the snow where it falls during the winter. Occasionally, when the meadow has made a good growth, and the feed is needed, it may be profitable to allow a few head of young stock to graze, but as a rule it is better to cut the grass rather high than to subject it to grazing.

In any case, the growth of the grass and clover plants the following years depends on the growth of leaves they are allowed to make the first summer. The leaves make starch and other foods, and store them in the roots for the early growth of the plant the next spring. If they are removed by cutting for hay or grazing, the store of food in the roots is lessened. With clover, particularly in the northern sections, it is desirable to leave considerable growth in the fall to serve as a mulch to protect the roots during the winter.

The same general principles apply to the management of the pasture lands. Many excellent pastures have been seriously damaged by too close grazing during the fall. Allowing the stock to bite off every trace of green—yes, even the roots themselves—baring the soil so that no winter protection is afforded from continued freezing and thawing, will ruin the most productive pastures in a few years. It is poor economy not to leave a mulch to protect the roots of the grass during the winter. It is the growth that nature provides late in the fall to protect the roots during the winter.—M.

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7420—Ladies' Shirt Waist—In tailored style, absolutely plain. At the open neck is a wide, flat collar and small tab at the bosom gives the ornamental touch. Sizes, 34 to 44 inches bust measure. Price, 10 cents.

7424—Boys' Norfolk Suit—Has applied plaits and can be made with or without the yokes. Straight or bloomer trousers may be used. Sizes, 8 to 14 years. Price, 10 cents.

7429—Ladies' Dress—Dress is made with plain blouse, having wide, flat collar and plain sleeves. Skirt has a shaped yoke. Sizes, 34 to 44 inches bust measure. Price, 10 cents.

7434—Girls' Dress—Has a surplice vest in center of blouse in front, while balance is plain. A wide collar finishes neck and a band cuff is placed at wrist of long plain sleeve. Sizes, 6, 8, 10 and 12 years. Price, 10 cents.

7426—Ladies' Shirt Waist — Fullness of fronts is arranged in small, underturned box pleats, held together in slot fashion. Sizes, 34 to 42 inches bust measure. Price, 10 cents.

7410—Ladies' Empire Negligee — Short-waisted bodice is used, and it is made with a very long shoulder and short sleeves. Sizes, 36, 40 and 44 inches bust measure. Price, 10 cents.

7428—Girls' Dress — Made with separate blouse, which has long or short sleeves; over this is the dress waist, which is in the form of a sleeveless jacket and which fastens in front. The skirt has two gores and is gathered all around. Sizes, 6, 8, 10, 12 and 14 years. Price, 10 cents.

7433—Ladies' Four Gore Skirt—Made with four gores, and will cut without waste from material 36 inches wide. There is a seam in the center of front and back with a small kick pleat at the lower edge of each seam. Sizes, 22 to 34 inches waist measure. Price, 10 cents.

7438—Girls' Dress — Frock has a plain blouse with side-front closing, high neck with flat collar and full length sleeves. Sizes, 6, 8, 10 and 12 years. Price, 10 cents.

7395—Ladies' Apron—Princess style, the front a panel joined to the sides by a seam extending from shoulder to hem. Sizes, 36, 40 and 44 bust measure. Price, 10 cents.

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FISH AND PORK CHOWDER

Cut a small piece of pork into squares and put into a kettle. Then add fish cut into large pieces, and pork on top of fish, one layer of potatoes, one layer of crackers, onions, if desired, and pepper and salt to taste. On top of this put another layer of pork, and repeat until you have a sufficient quantity, with the top layer being buttered crackers. Cook for half an hour, and five minutes before serving add one cupful of hot milk.—Mrs. W. Andrews, Wisconsin.

GOOD APPLE BUTTER

Ten pounds of good cooking apples, five pounds of sugar, one pint of good vinegar, and flavor with cinnamon, allspice and cloves. Cook the apples, mash them fine, then add the sugar and vinegar. It is then put into the oven until as stiff as wanted. When ready to take from the oven the spices are stirred in. By baking it is not necessary to stir it.—Mrs. John Woods, Indiana.

CEMENT FOR RUBBER OR LEATHER

Cement for rubber or leather may be made by dissolving an ounce of gutta percha in half a pound of chloroform. Clean the parts to be cemented, cover each part with the solution and let dry for half an hour. Now warm each part of the article to be cemented, in the flame of a candle, and press firmly together till dry.—Mrs. Arthur Lenox, Washington D. C.

CREAM FOR CHAPPED HANDS AND FACE

Excellent cream for chapped hands and face: 60 grains whole tragacanth, 14 oz. rosewater, one oz. glycerine, one oz. alcohol, 10 cents benzoin. Soak tragacanth in rosewater two days until dissolved, then add the other ingredients. Shake well. Use immediately after bathing.—Mrs. C. G. B., Illinois.

TO FRESHEN UP VELVET

Dip a brush in damp sand and rub the soiled velvet lightly. The garment will look like new, as the moisture removes dust, and the harsh action of the sandy friction gives it a new appearance.—Miss Myra Crowe, Kansas.

TO REMOVE TARNISH

If the brass and vernis martin beds and all brass articles are rubbed with vaseline, it will remove tarnish and if used regularly will prevent tarnishing.—Mrs. C. G. B., Illinois.

A GOOD HOME MADE MODEL

Cut out a plain, close-fitting princess slip of some very stout material. Baste up and try on, being sure of a perfect fit. Cut the garment to come just below the hips, and sew pieces in the armholes and at the bottom. Fill with sawdust or cork. After filling the model, sew a round piece in the neck. When in use, place on a high stool.—Mrs. A. F. Taylor, Texas.

A CHURNING OPERATION

If in churning separated cream the butter clings to the side of the churn, rinse down with sweet separated milk, and make the buttermilk better.—Mrs. O. Purcell, Oklahoma.

TO GLAZE SHIRT BOSOMS

Add a teaspoonful of salt and a teaspoonful of white soap cut very fine to each quart of starch. Add hot water, and boil until as thick as desired.—Mrs. H. F. Carter, Kentucky.

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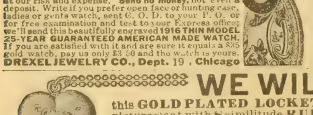

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Our Trappers' Department

NOTICE TO READERS

Mr. George J. Thiessen, the author of the series of trapping articles which will appear in this magazine, will answer all questions pertaining to traps and trapping through the columns of this magazine, or personally, if ten cents is sent to cover stenographer fees, stationery, stamps, etc. Mr. Thiessen is an authority upon the subjects he writes about, being the author of nearly a dozen books on trapping. He was special writer for the "Fur News" magazine, of New York City, formerly editor of one of the largest trapping magazines in America, and also at one time the head of the trapping department of "Rod & Gun." His experience on the trap line, buying and selling furs, in charge of the consignments for a fur house known to every trapper in America—in fact his familiarity with every phase of the fur business will prove a great help to the readers of this magazine.

RULES—In order for every reader to get the most good from this feature, it will be necessary for each one to carefully observe the following: (1) Not more than five questions will be answered for any one reader each issue. (2) Be brief and clear with questions. (3) Write plainly, giving full name and address. (4) Address all letters to Editor of Trapping, Farm News, Springfield, Ohio. (5) Questions to be answered by mail should be marked "Personal," with 10 cents enclosed.

PREPARING FURS FOR MARKET

By George J. Thiessen.

In order for the trapper to get the best prices for his furs they not only have to be of good quality but be handled in such a manner as to meet with the approval of the purchaser. A prime fur can be absolutely ruined by a careless trapper, and one has but to visit the large fur houses during the trapping season to see how many thousands of dollars each year are lost through ignorance or carelessness.

Furs should be removed as soon after the animal is dead as possible. Of course I realize that in many cases a school boy, who has but a short time at his disposal each morning, will have to wait until night to skin his catch. As a general rule professionals take off the pelts as soon as the animals are removed from the traps, the work being more pleasant and easier at this time. The weight, too, is often a consideration; one carcass weighing more than a dozen skins.

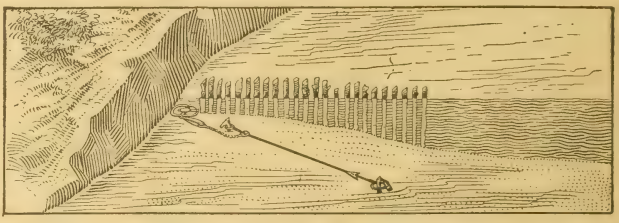
It is unnecessary for me to say outside of the humane feature, that traps ought be looked after every morning. I have known many times when dead animals which were prime had been left in traps for days, with the result that the skins "tainted" or could not be graded as prime. Of course this means a loss.

A sharp knife ought be employed for skinning. Take long strokes when removing the hides, not short ones, for that in many instances leaves a ragged edge on the pelt. Care should be taken so that all meat and fat is removed from the skin, and in warm weather—there are many instances when the fur season is not very cold—it is best to split the tail open and rub salt into the skin. Some trappers, if the weather is very warm, salt such skins as the skunk, raccoon and opossum, to save them from spoiling. This method should be followed only in extreme cases, as salted skins bring lower prices than those cured otherwise.

Unless the grease and fat is removed from a skin, it is liable to taint, or become grease burned. Furs in this condition are worth little or nothing.

After a pelt has been removed, a steel stretcher is best for curing it, since the air circulates more freely through the hair. If steel stretchers are not employed, use forms made of thin boards. Fashion these of a size to fit the pelt and have the edges rounded so the skin will not be injured. Use tacks to keep the skin in place.

Never dry furs over a fire or in the sun. Place them in a cool, shady place where it is not damp.



Aa Effective Device For Directing Animals To Traps

Some trappers use the Indian method of stretching muskrat pelts; that is, simply bend a twig and insert it into the hide so that some kind of shape is given to it. I warn you against this method, for fur dealers do not favor it. When the Indian stretchers are used the pelts are of all shapes, stretched in some places and not in others.

Always remove the tail bone in furs. The tails of the opossum and muskrat are of no value and should not, like one beginner's I saw, be skinned. Unless this bone is removed, it may rot, and this will cause the fur to taint.

Green skins ought never be shipped. In many cases they spoil in transit.

Should skunk or civet skins smell so strongly as to be disagreeable to handle, rinse them well in gasoline. This should be done outdoors, where there is no danger from fire.

When skins have been thoroughly dried, they can be removed from the stretchers. In the case of muskrats, thin boards are to be preferred when steel or wire forms are not employed. The reason for this is that in most cases the skins will be hard to remove. Thin boards can easily be split.

Almost any large fur house will give you a square deal. They cannot afford

to do otherwise, although I know of cases when shippers did not get what they were entitled to. I do not mean to intimate that small dealers cannot pay you good prices also, and some of them give more than the highly advertised large ones. But all in all, the firms want your business, and they know that unless they satisfy you as to sort and price you will send future consignments elsewhere.

When shipping, pack furs in sacks or burlap. Have your name and address both inside and outside of the shipment, giving the number of skins, etc. It is well also to write your dealer telling him of your shipment, with what instructions you wish carried out. Many times you desire to know what your furs are worth before selling them, and in this case you should mark plainly on your tags accompanying the consignment, and also in your letter—"HOLD SEPARATE." Then the dealer will grade your furs and send you a check covering same. If satisfactory, you can cash same and while it is not necessary for you to notify him, it is best to do so. Furs which are held separate are usually put into cold storage, in the case of the larger buyers, and if nothing is heard from the shipper within a specified time, the buyer takes it for granted that his customer is satisfied. Then he throws the skins into stock, after which it is almost an impossibility to pick them out. If you desire your pelts shipped back, notify the dealer at once upon receipt of his letter and return his check.

Furs ought never be sent by freight. Large shipments go best by express while smaller ones, provided they are wrapped properly, can be sent by mail.

It is the custom of some trappers to turn their skins fur side out when shipping. Some houses prefer them this way, but most of them do not. As a general rule, all small skins which are not skinned opened—the raccoon being the only one not cased—ought be dried flesh side out. However, professional trappers, and especially those that take the finer grades of northern mink, send the pelts in fur side out. It is a good plan to send weasels this way also. Hides sent fur side out should be cured that way, and in the case of the ermine, whose fur tears easily, it is no small task to turn a skin when once it has been dried.

FARMYARD SONG

By John Townsend Trowbridge.

Over the hills the farm-boy goes,
His shadow lengthened along the land,
A giant staff in a giant hand;
In the poplar tree, above the spring,
The katydid begins to sing;
The early dews are falling;—
Into the stone-heap darts the mink;
The swallows skim the river's brink;
And home to the woodland fly the crows,
When over the hill the farm-boy goes,
Cheerily calling,—
"Co', boss! co', boss! co'! co'! co'!"
Farther, farther, over the hill,
Faintly calling, calling still,—
"Co', boss! co', boss! co'! co'!

Into the yard the farmer goes,
With grateful heart, at the close of day;
Harness and chain are hung away;
In the wagon shed stand yoke and plough;
The straw's in the stack, the hay in the mow,
The cooling dews are falling;—
The friendly sheep his welcome bleat,
The pigs come grunting to his feet,
The whinnying mare her master knows,
When into the yard the farmer goes,
His cattle calling,—
"Co', boss! co', boss! co'! co'! co'!"
While still the cow-boy, far away,
Goes seeking those that have gone astray,—
"Co', boss! co', boss! co'! co'!"

Now to her task the milkmaid goes,
The cattle come crowding through the gate,
Lowing, pushing, little and great;
About the trough, by the farm-yard pump,
The frolicsome yearlings frisk and jump,
While the pleasant dews are falling;
The new-milch heifer is quick and shy,
But the old cow waits with tranquil eye;
And the white stream into the bright pail flows,
When to her task the milkmaid goes,
Soothingly calling,—
"So, boss! so, boss! so! so! so!"
The cheerful milkmaid takes her stool,
And sits and milks in the twilight cool,
Saying, "So! so, boss! so! so!"

To supper at last the farmer goes.
The apples are pared, the paper read,
The stories are told, then all to bed.
Without the cricket's ceaseless song
Makes shrill the silence all night long;
The heavy dews are falling.
The housewife's hand has turned the lock:
Drowsily ticks the kitchen clock;
The household sinks to deep repose;
But still in sleep the farm-boy goes
Singing, calling,—
"Co', boss! co', boss! co'! co'! co'!"
And oft the milkmaid in her dreams
Drums in the pail with the flashing streams,
Murmuring, "So, boss! so!"

29

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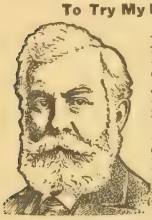
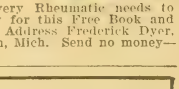


FRED'K DYER, Corresponding Sec'y

Get rid of your Rheumatism without Medicine and without risking a penny. Just send this coupon. Return mail will bring you a **Regular Dollar Pair of Dyer's Foot Drafts**—fresh from my laboratory. These simple but powerful drafts are so sure to bring quick relief in any stage of this cruel disease, that I gladly send them without pay in advance to every sufferer I can hear of. Thousands of men and women have written me from all parts of the world that my Drafts cured them after all other means, including expensive doctors and baths, had failed, and even after 30 and 40 years of cruel pain. If you are suffering from Rheumatism I want to send them to you **To Try Free.** Just send me the coupon. Try my Drafts when they come, and then if you are fully satisfied with the benefit received, send me One Dollar. If not, they cost you nothing. **You decide** and I take your word. You can see that I couldn't possibly make you this offer if I were not positive that my Drafts are better and surer than anything else you can get for any kind of Rheumatism, no matter where located or how severe. My **Free Book**, illustrated in colors, explains things every Rheumatic needs to know. Send today for this Free Book and the Trial Drafts. Address Frederick Dyer, Dept. 1061, Jackson, Mich. Send no money—just the coupon.



WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

PREPARING THE DAIRY BARN FOR WINTER

(Continued from Page 11)

dairy barn are, of course, undesirable, and must be prevented; but, by a system of overhead ventilation, the air in the barn can be kept sweet, without the least danger of injurious drafts.

The inside of the walls of dairy barns need attention, always at the beginning of winter. It is important that the surface of the walls be smooth, and there should be no crevices in which insects and the germs of disease can find harborage. They should be thoroughly whitewashed with a strong adhesive mixture of lime. It is not sufficient to do this only as high as a man can conveniently reach, leaving the upper portions looking black and hideous. A ladder should be brought into use, and the job done thoroughly.

Some people seem to confuse the meanings of the words "ventilation" and "drafts," and the upshot is, that they suffer openings to remain in the walls, doors and windows, with the idea that this is a safe way of ventilating the barn. Undoubtedly a barn can be well ventilated by leaving the doors and windows partly open, in such a way that cold drafts will not strike directly upon the animals which are housed, but it is inevitable that they will be injurious if broken panes of glass, splits in the doors, cracks in the walls, and openings in the roof are not repaired. Sufficient ventilation means the provision of fresh air without drafts, and this is the kind that ought to be provided.

Another point in perfect sanitation is good drainage, and this is a thing no dairyman can afford to ignore. Plenty of light in the barn is very important. It has been demonstrated that each cow wants three square feet of window glass. In my barn the windows are placed as high up as possible, so as to get the longest slant of sunshine, which is one of the best germ-destroyers known. If the cows are neglected, a good deal of dirt is bound to collect on the udder, belly and flank. There are several forms of stalls and tieups, that if properly used, and the cows are provided with good bedding, will keep them practically free from manure and urine. I use the swinging stanchion. It is cheap, simple in construction, and gives the cows a considerable amount of freedom.

As to bedding material, I am pretty strongly in favor of sawdust. It is a splendid absorbent, makes a comfortable bed, and certainly keeps the cows cleaner and drier than any other bedding material I have ever used. The cows are well brushed before milking begins, and all long hairs that would cause impurities to fall into the milk pail, are kept clipped off.—U.

Powerful Telescope FREE

A Telescope with powerful lenses, scientifically ground and adjusted. Manufactured and guaranteed by a large European manufacturer. Measures 12 inches closed, 3 1-2 feet open, 5 sections. Objects miles away are brought to view with astonishing clearness. One man used his to count cattle 20 miles away, and could distinguished a cow from a horse.

We will send this powerful telescope postpaid and The Family Magazine two years for $1.25. Address

THE FAMILY, Department 9, SPRINGFIELD, OHIO

POCKET TOOL KIT

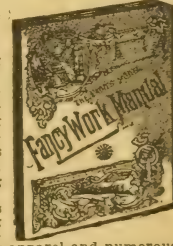
10 DIFFERENT TOOLS

This is one of the handiest and most useful tool outfits ever offered. Handy for the women folks around the house, for the man in the shop, the auto owner, farmer, etc. There are ten different tools and the handle which is hollow and provides a receptacle for the tools not in use. If there is a more useful outfit anywhere we have never seen it offered.

Price is Way Down within the reach of everyone and we guarantee satisfaction or cheerfully refund your money. Send your order today as this price will soon be withdrawn. The complete outfit, neatly packed and sent prepaid for only 40 cents. Address

MASON SUPPLY HOUSE, - SPRINGFIELD, OHIO

FANCY-WORK BOOK



This book, embodies all the latest ideas in needlework, crochet, knitting and embroidery. It contains designs and directions for making nearly fifty different patterns of knitted laces. Many charming crochet patterns, also instructions for making many useful articles of wearing apparel and numerous articles for home decoration, among which are tidies, chair-scarfs, doilies purses, table mats, shopping bags, lamp shades, shawls, Afghans, toilet sets, counterpanes, sofa cushions, chair-covers, pin-cushions, dressing slippers, babies' socks, etc. Full and complete instructions accompany each design, together with an explanation of the terms used in knitting and crocheting, etc. It also contains full and complete instructions in the art of embroidery, with numerous beautiful designs. The whole is illustrated by 95 handsome engravings, and the whole subject of ladies' fancy work is made so clear in this book that with it as a guide one may become an adept in art. It is a book of 64 large double-column pages neatly bound in attractive paper covers, and will be sent postpaid to any one sending 10 cents to Fancywork Department 10, The Family Magazine, Springfield, Ohio.

$60 A WEEK AND THIS FREE AUTOMOBILE

I OFFER this Big Money and a FREE Automobile to one hustling Representative in each county in the U. S. This is not a contest. Every agent can get a FREE Automobile and $60.00 a week. You don't need experience. I want you to advertise, sell and appoint sub-agents for the **Robinson Folding Bath Tub.** It's a whirlwind seller. Solves the bathing problem. No plumbing, no waterworks needed. Full length baths in any room. **Folds in small roll.** Won't leak. Self-emptying. *Ten-year Guarantee.* Rivals $100 bath-room. Never such a big seller; never such a big money-maker. Never such a liberal offer as this. **Think! $60.00 a Week and FREE Automobile.**

Exclusive Territory. 100% Profit.

Backed by 10 Year Gold Bond Guarantee

Sell 2 Tubs Daily—Make $300.00 Monthly

It's easy. You can do it. J. H. Brown, N. J. says: "14 calls, 14 sales. How's that?" ($70 profit). R. C. McCartney, Mich., says: "Sold 5 tubs in 15 hours." ($25 profit). "Sold 6 from noon to night," says J. A. Hembd, S. D. ($30 profit). Ned Boles of Idaho, sold 8 first afternoon. ($40 profit). H. M. Yeley, N. D., sold 10 in 3 days. ($50 profit). W. A. Gloeckler, S. D., sold 11 in 3 days. ($55 profit). A. R. Engle, Mont., got 11 orders in 2 1-2 days. (Address furnished on request. You can do as well as these men. You can sell 2 a day. That means $60 a week, clean profit, with a big, speedy Touring Car Free. Little capital needed. I grant credit to deserving men. Furnish you with a Demonstrating Tub, on liberal plan. You can't lose. 70% of the homes have no bath-room. They need the Robinson Tub. Just show FOLDED tub; take the order. Quick sales and immense profits. This is YOUR chance. Don't delay. Get busy. Write today for Demonstrating Tub and FREE Automobile offer.

Demonstrating Tub Furnished

H. S. Robinson, Pres., THE ROBINSON CABINET MFG. CO., 1984 Factories Building, Toledo, O.

This $750 Overland Will Be Given Away!

YES! We are going to give away this fine big 1916 Model Overland Automobile Free. It is fully equipped with top, electric self starter and lights, speedometer, horn, etc., and will be sent to some industrious person **Free of Charge.** All you will have to do to earn this fine automobile is to take subscriptions to my popular farm and home magazine. Each subscription will count so many points and if you have the most points December 18, the automobile is yours free of cost. Isn't that an easy way to get an auto?

I Have Given Away Thirty-Nine Automobiles

During the past few years I have given away thirty-nine automobiles, many motorcycles and numbers of other prizes in our popular prize offering. I will send you the names and addresses of these winners and you can write them if you wish. One of our recent contests was won by a little boy at Nolan, Tex., named R. F. Oakley. He is only twelve years old and earned a Studebaker Automobile. You can do as well. Write your name and address on the coupon below and mail it to me today. It won't cost you a cent and I will tell you all about our free offer.

W. W. RHOADS, Mgr.,
812 Jackson Street, Topeka, Kansas.

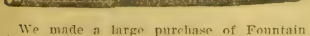
"Overland 36"

ENTRY COUPON

W. W. RHOADS, Mgr.,
812 Jackson Street, Topeka, Kansas.
Dear Sir—Please send me full particulars of your free automobile offer. This does not obligate me in any way.

Name.....
Town.....
State.....
R.F.D..... Box.....

Fountain Pen Free



We made a large purchase of Fountain Pens from a factory that needed the money and we bought them at an extremely low price. We are going to give our readers the benefit of our bargain by giving one of these Fountain Pens and a Regulation Filler in a neat box, all free and postpaid, to any person sending us only 25 cents to pay for one yearly subscription to FARM NEWS. Send in your order today as the pens will not last long at this low rate.

FARM NEWS Pen Dept., Springfield, Ohio.

AUTOMOBILE FREE

CAN YOU SOLVE THIS PUZZLE?

LOW SIN Can you rearrange the letters in these two words in the squares so as to make **one word**—the name of a great **PRESIDENT?** If so, send the **NAME** and a **2c** stamp and I will enter you in this novel **AUTO CONTEST** with 2,000 votes and send you a **25c CASH** coupon and a **SURPRISE PACKAGE** explaining my plan. The auto goes to the winner freight paid, all ready to jump in and start. Do you want it? Reply quick.

THE AUTO-MAN, 222 New Ideas Building., Phila., Pa.

24 Complete Novels Novelettes and Stories 10c

To introduce our wonderful offers we will send this fine collection of reading matter at small cost. Each is a complete story in itself. Here are a few of the titles and there are 14 others just as good.

Woven on Fate's Loom	Charles Garvice
The Tide of the Moaning Bar	Francis H. Barnett
Huldah	Marion Harland
The Lost Diamond	Charlotte M. Braeme
The Spectre Revels	Mrs. Southworth
The Green Ledger	Miss M. E. Braddon
Barbara	The Duchess
Circumstantial Evidence	Miss M. V. Victor
The Heiress of Arne	Charlotte M. Braeme
Eve Holly's Heart	Mary Kyle Dallas
Quartermains Story	H. Ridder Haggard

Send 10c today and this collection will be sent by return mail.

WESTERN MAGAZINE CO.
Room 8-43 Hunter Bldg., Chicago

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Overland Auto FREE TO YOU

A Grand Opportunity

If someone were to show you one of these beautiful Overland cars and tell you that if you would do what is equivalent to one week's work you could have the car, we know that you would accept it. You would not hesitate a moment.

What we are going to ask you to do, in all probability, will be equivalent to not more than this. The little work will be simple and easy—so simple and easy that a boy twelve years old can accomplish the feat and do it easily.

All we ask is a little of your spare time. We are going to pay every person for everything they may do for us, no matter whether they get this automobile or not. Someone is going to get it, and it might just as well be you as anyone else. You can have it if you make up your mind that you are going to get it, and this is not idle talk. It is an absolute and positive fact.

The work required to secure this automobile will represent only a very small fractional part of the value of the automobile. Below you will find a coupon all ready for you to write in your name and mail to us.

Remember, sending this coupon obligates you for nothing. We will send you our offer and if it does not look good to you, that is all there will be to it. The coupon brings you the information, so don't fail to send it today. Don't miss the opportunity.

Send This Today

FARM NEWS, Auto Dept. 33, Springfield, Ohio.

Please send me particulars about your great free Automobile offer by return mail.

Name.....
Town.....
State..... *Route No.*..... *Box No.*.....

Dora Thorne

The Great Heart-Throb Novel of the Century By Bertha M. Clay

Special Sale Price With Subscription to "The People's Home Journal" for Six Months for 25c

A great novel, unfolding the story of a young girl's love, transmuted into a wife's bitter jealousy, and a boy's first passion turned into smoldering fires of regret. Dora Thorne is recognized to be one of the most powerful romances of our day. It has been dramatized, and is about to be produced by one of the best known moving picture firms in America. The book is printed in good clear type and is well bound, with illustrated cover on highly calendered paper. A complete unabridged story, numbering 251 pages and over 125,000 words.

Lord Earle, a proud English nobleman, forbids his only son, Ronald, to marry Dora Thorne, the daughter of his lodge-keeper. Ronald is captivated by Dora's shy beauty, and chivalrously marries her, confiding his secret to Lady Charteris' daughter, Valentine. The announcement of Ronald's secret marriage cuts Valentine to the heart, for she has been attracted to him, and the parents of the young people have hoped for the match. Confusion follows Ronald's news. Lord Earle exiles him, declaring that he is no longer his son. In time, Ronald tries to earn his living as an artist, making his first success with a painting in which he unconsciously reproduces Valentine's high-bred face. Dora recognizes the likeness, and when Valentine appears on the scene, she suspects that Ronald has tired of her rustic beauty. After reading a letter from Valentine addressed to Ronald she is sure of it, and follows her husband to the Charteris' villa. What Dora does in her rival's villa, and the tragic events which follow are told in this wonderful book of love and romance.

The object of this offer is to induce new readers to try THE PEOPLE'S HOME JOURNAL for **Six Months.** It is conceded to be the greatest fiction and home magazine in the world. Once in the home, it is there to stay, hence we can afford to make this introductory offer a very liberal one. No other magazine contains serials, short stories and novelettes as absorbing and fascinating. It has become famous for these features. Just send your name and address and 25 cents in stamps or coin and we will send you immediately the famously popular 251 page book above described and a subscription to THE PEOPLE'S HOME JOURNAL for **Six Months.** Address

F. M. LUPTON, Publisher, 74 Lafayette Street, New York City

WIN A $275.00 MOTORCYCLE FREE

Can You Solve This Puzzle? Try it and See.

Arrange the letters, shown in the circle, so as to form the name of a well known farm paper. Send in your answer, with your name and address, at once. You will then be entitled to be considered in the awarding of the $275.00 Motorcycle and other G and Prizes which we will give away FREE. If your answer is correct we will also send you a Certificate good for 1,000 Free Votes toward the Motorcycle and other Grand Prizes in our great Motorcycle Contest, ending Aug. 31, 1915. In case of tie for any prize, each tying contestant will get a prize same as the one tied for. Whether you win the Motorcycle or not, if you take part in this contest you will receive a Valuable Prize and Cash Reward for Everything You Do. The first thing to do is to send in your name and address and puzzle solution. Address

FARM LIFE, DEPT. B-22 SPENCER, INDIANA

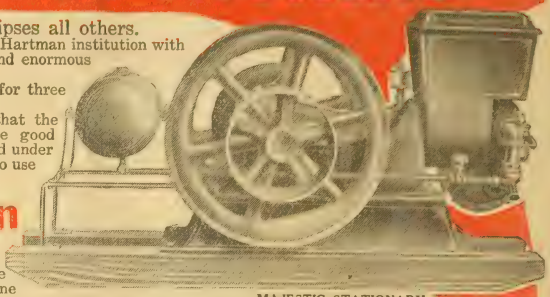
Not One Cent For Three Months

Here is the engine offer that eclipses all others.

It's an offer such as only the mammoth Hartman institution with its more than $10,000,000 purchasing power and enormous output could possibly make.

Just think what "not one cent to pay for three months" means to you who need power.

Just think how absolutely sure we are that the great Majestic Engine will positively make good continuously on any and all kinds of work and under all conditions when we dare send it to you to use on your own work asking absolutely



MAJESTIC STATIONARY ENGINE—*Sizes 2, 3, 5, 7, 9 and 14 Horsepower.* Iron sub-base mounting. Burns gasoline, gas, naphtha, kerosene, distillate.

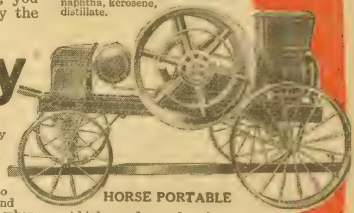
No Money Down

Think of it—you don't have to send us one cent of your money until, from the actual results, on your own every day work, you are absolutely sure that the **Majestic** is the engine you want. If it doesn't prove to be, send it back at our expense—your trial costs you nothing.

After satisfying yourself that the Majestic **is** the engine you want, you may use it for three months before you make the first payment, and pay the balance, without interest, in 6, 9, and 12 months—giving you

A Full Year To Pay
Without Interest

At the remarkable bargain price at which the Majestic is now being sold it is unquestionably the biggest engine value in America today. It is the simplest, most durable, most powerful for its H. P. rating and most economical-to-operate gasoline engine ever made. Don't confuse it with old-style, over-heavy type of gasoline engines which consume enormous amounts of fuel and are, therefore expensive to operate. Neither is the Majestic the opposite extreme—the kind that are so light they literally jerk and tear themselve to pieces when run at high speed or under a heavy load. The Majestic is the "happy medium"—neither too heavy nor too light. If you need power you cannot afford to close any engine deal without first securing our Engine Book and learning of our offer on—

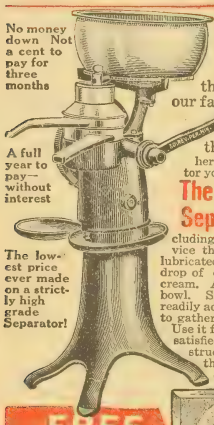


HORSE PORTABLE

No money down Not a cent to pay for three months

A full year to pay—without interest

The lowest price ever made on a strictly high grade Separator!



Sensational Separator Offer

This offer is exactly the same as that above on our famous Majestic Engines. We want you to learn by a thorough Free Trial, that here, at last, is just the separator you want.

The Majestic Cream Separator has all the latest improvements including remarkable inside oiling device that keeps gearing perfectly lubricated and absolutely prevents a drop of oil coming in contact with cream. Also improved separable disc bowl. Simplest to clean—all parts readily accessible—no nooks or corners to gather dirt.

Use it for 30 days; then if you're not satisfied it is the most strongly constructed, the easiest running, the closest skimming, and in every way the **best** separator on the market, return at our expense. The trial costs you absolutely nothing.

Majestic Engines
Gasoline, Kerosene, Naphtha, Gas

The Majestic has fewer number of parts—a marvel of simplicity—no experience needed to run it. Perfectly balanced—just the right weight for the power it is designed to develop—no excessive friction. Big improvements in all vital parts—and the most wonderful **automatic mixer** ever put on a gasoline engine—a mixer that keeps down fuel consumption to the lowest notch.

PORTABLE WOOD SAW

All Majestics are horizontal, 4-cycle type, open-jacket, hopper cooled. No over-heating of parts or sticking of valves. Very little water needed for cooling. Convenient, compact, easy to run.

Your Credit Good

No bank deposit—no reference asked—no mortgage—no embarassing questions—no collectors—no red tape. You may pay all cash if you prefer but it costs you not one penny extra to take advantage of Hartman's full-year-to-pay without interest credit terms.

Get This Convincing Proof

Don't buy any separator until you get all the facts about the Majestic. Write your name and address in coupon and mail today.

Mail coupon or postal at once for your free copy of this, the most valuable, most interesting book of engines ever published. Tells all about the wonderful Majestic, how made and why it is the biggest engine value in America today. Tells how to pick out the size and style engine best suited to your needs and explains the Hartman selling plan.

FREE Separator Book COUPON

THE HARTMAN CO.,
4062-64 LaSalle St., Chicago, Ill.

Send me free copy of your Cream Separator Catalog No. 218-S explaining liberal no-money-in-advance, year-to-pay-without-interest credit terms. This does not obligate me in any way.

Name.....

Address.....

City.....State.....

FREE Engine Book COUPON

THE HARTMAN CO.,
4062-64 LaSalle St., Chicago, Ill.

Without obligating me, please send me copy of your free Engine Book No. 218-F and details of your no money down, year-to-pay-without-interest selling plan.

Name.....

Address.....

City.....State.....

THE HARTMAN CO.,
4062-64 LaSalle St.,
CHICAGO, ILL.

FARM NEWS

All that is New and Best for the Farmer

Springfield, Ohio November, 1915

SOME WINNERS AT THE STATE FAIRS

See Our Liberal Cash-Prize Offers on Page 3

With the Editor

Iowa is regarded by the leading motor car manufacturers as the barometer of the automobile industry. While more machines are sold in New York than any other state, yet Iowa, an agricultural state, is the barometer of this trade. It bears out the immutable fact that the Farmer is Prosperity's Advance Agent.

In a recent bulletin of the California Agricultural College, the statement is made that "less than two-fifths of the number of brands of fertilizers offered by the manufacturer are actually bought by farmers." The bulletin also brings out another pertinent fact: "The cost of mixing, sacking, freighting, selling, etc., is the same, whether a ton of fertilizer contains 200 pounds of plant-food or 600. Hence it is evident that 100 pounds of plant-food in a high-grade fertilizer will cost less than in a low-grade material, on account of the smaller amount of valueless material which must be handled in the high-grade goods."

We are frequently asked as to the field-pea as a forage crop for the Middle-West. Investigations conducted by the U. S. Department of Agriculture show that the field-pea requires a cool growing season. High temperatures are much more injurious than frosts, which are disastrous to crops only when they occur just at the period when the pods are setting. The crop may be grown in the Northern States and Canada during the summer, and in the Southern States during the winter.

STAR

CHEWING TOBACCO

LEADING BRAND OF THE WORLD

"Its Lasting Flavor Makes Lasting Friends"

THE big STAR plug is meaty with chewing satisfaction. Its thickness means more chewable *inside* tobacco. Its thin wrapper leaves it so full of ripe, juicy "chews" that it can't dry out. Its honest weight gives you more for your money.

Men Who Chew Are Men Who DO

More chewers chew STAR than any other brand. You'll like STAR and stick to it once you've tried it.

10c Cuts *16 oz. Plugs*

Liggett & Myers Tobacco Co.

STAR was awarded the Grand Prize at the San Francisco Exposition, and is the only chewing tobacco that has ever received this highest possible award.

LAZYTOWN LOCAL NEWS

The government does not seem to like it because the Postmaster does not keep his office in better shape, by sweeping out now and then. But the Postmaster says that when a man has been on a job a long time he does not have to pay attention to every little thing these higherup demand. Besides, our office has probably what no other office in the country has, in the way of an alarm, which registers the approach of every prospective customer. The system is very simple, consisting of nothing but a loose plank in the floor of the front porch. The only disadvantage about it is that now and then a dog trots across it, and causes the Postmaster to look around when he is engaged in playing seven-up.

A deaf man spent Saturday in this vicinity. Several hard things were said about him out loud.

A hog got hung in a fence crack at the Rye straw store Thursday, and alarmed the neighborhood. A good-sized crowd gathered, and the storekeeper enjoyed a nice trade. He thinks any kind of advertising is good that will get the people to come to your store.

Dock Hocks has been reproved for wearing his sleeves rolled up on Sunday. It is said that he does it to show his big muscle. When asked about it the other day he contended that he has as much right to do that as the girls have to wear short skirts for the same purpose.

The Tin Peddler's blind horse ran into the Mail Carrier's buggy in front of the postoffice Wednesday. Considerable damage was done. The Mail Carrier, being a part of the government, has informed headquarters of the incident, and asked that the Tin Peddler be held to a strict accountability for his act.

Fletcher Henstep has installed a cornsheller in his home to furnish noise while his children are at school.

Washington Hocks, who in his younger days held his shoulders up and kept his hair combed, is now getting quite old. He does not care for style like he used to and has let his mule's mane and tail grow out.

The Excelsior Fiddling Band played in front of the postoffice yesterday and drowned out an argument going on between Poke Eazley and Jefferson Potlocks.

The Hog Ford preacher will preach at Hog Ford next Sunday. A big crowd will likely be present, and those desiring back seats should go early.

Tobe Moseley's wandering gourd vine is making rapid progress and it is now believed that it can reach Musket Ridge before frost falls. Cricket Hicks has been engaged to follow it.—George Bingham, in Judge.

DIFFERENT NOW

"Before we were married you always gave the waiter a half-dollar," she said.

"Yep," he replied sadly. "Before I was married I always had a half-dollar to give."—Detroit Free Press.

HARMONY

Wifie—The dresses this season are to be very short, dearie.

Hubby—Then they'll just match my pocket, pet.—Baltimore American.

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

FARM NEWS

PUBLISHED MONTHLY BY THE
SIMMONS PUBLISHING COMPANY
SPRINGFIELD, OHIO
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HARRY DEAN BRYDON, Editor

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Entered at the Springfield, Ohio, Post Office as Second Class Mail Matter

The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXV — NOVEMBER, 1915 — Number 11

Thanksgiving

November ushers in the first really religious holiday of the year. True, Independence Day and Memorial Day have sacred places in the hearts of the American people, and they commemorate events which are of the utmost importance in our national history. But Thanksgiving Day is the first holiday of the year founded upon purely religious sentiment.

Perhaps before this reaches the eye of the reader, President Wilson and the governors of the several states will have issued their Thanksgiving proclamations, setting forth the various reasons for which the dwellers in this country should be thankful to Divine Providence. In all of these, it is safe to say, the fact that the country is at peace with the world will be dwelt upon with special emphasis, and rightfully so.

But with the readers of Farm News, beside being thankful that their sons are at home, pursuing peaceful pursuits, there has been showered upon them the benisons of plenty. The average farmer doesn't appreciate what plenty means. If he could only see the thousands of city homes, where the grim specter of Want is always just outside the door, and compare his condition with these homes, he would readily see that he, of all men, have been highly favored.

The true test of gratitude is in its expression. The only ways in which an appropriate feeling of gratitude may be displayed is in making the day memorable to others less fortunate, and in attending the service in your own church. This isn't much, and most of us are willing to do it—but we are all so forgetful. This year, go to the door, look around over what your eye can take in of your farm, and contrast it with some of the fields of Belgium, France, Poland, Serbia—and be thankful.

FOOT-AND-MOUTH DISEASE

The failure of individuals and other agencies to co-operate with the government officials is responsible for another serious outbreak of this dread disease in Illinois. This disease has been prevalent in Europe for more than a century. The quarantine method, enforced by military authorities, has been a failure, and now Europe is so thoroughly infected with the disease that its eradication by slaughter is impossible.

(Continued on Page 31)

Big Cash Prize Announcements

Hundreds of Dollars Will be Given Away to Our Readers This Winter

READ OUR LIBERAL OFFERS BELOW

We will pay $5.00 in Cash for what we consider the best contribution on general farming sent in by any of our readers; for the second best we will pay $3.00 in Cash, and $1.00 for each other contribution used.

This is what we want you to tell us about: Have you discovered any new and labor-saving ways to do any of the general work on the farm, such as feeding, doing the chores, or any way to cut the cost or time in performing the necessary work of any particular branch of farming? Or have you specialized in any one particular branch of farming or stock-raising? If so, tell us about it, and if you have a picture, send it along.

FOR OUR POULTRY MEN AND WOMEN

We want our poultry men and women to tell us of their experiences in raising poultry, more particularly with incubators for hatching. But we also want you to tell us about your success or failure in other things connected with the Poultry-raising, breeding, hatching, eggs, marketing, feeds, remedies for diseases, culling, judging the fowls for egg-production or breeding purposes, etc. In fact, anything which you think would be of value to your fellow poultry-raisers. For what we consider the best contribution on any branch of the poultry business we will pay:

$5.00 in Cash

For the Second Best $3.00

$1.00 for Each Other Contribution Used

CONDITIONS: All readers of FARM NEWS are eligible to enter these contests. Write on any kind of paper, only do not write on both sides. Give us your story, we will dress it up before publishing it. Tell it in your own way. And, if possible, send along your picture. There is no entrance fee. It is absolutely free. Send your contributions to

Prize Contribution Editor, FARM NEWS, SPRINGFIELD, OHIO

Valuable War Atlas FREE

To those of our readers who find the correct number of times the word "WRITE" appears in the advertisements in this number of FARM NEWS, we will send, prepaid, a copy of our War Atlas and Gazeteer. This War Atlas is even more than its name implies. There are 16 pages, size 11x15½ inches, containing beautiful colored maps of the world and the countries now at war in Europe, pictures of the reigning monarchs, the various types of battleships, submarines, airships, etc., and gives the standings of all armies and navies, both in times of war and peace. It is really an educational atlas, and is absolutely accurate, even to the new boundary lines in the Balkans. Remember, it costs you nothing to try. Just count the number of times the word "WRITE" appears in the advertisements, and send your answer to the Ad Contest Editor, FARM NEWS, Springfield, Ohio. Contest closes December 1, 1915.

FARMERS AND THE BUILDING & LOAN

The Advantages of This Association From the Viewpoint of a Building & Loan Association Man

By K. V. Haymaker

THE American farmer is not forced into debt, but he goes in from choice; because he makes money by doing so. It is when times are most prosperous, when crops are most abundant and prices the highest, and when the future seems to indicate a continuance of those conditions that the farmer gets the courage to go in debt. He gives a mortgage to buy more land, to build a better house or bigger barns; to purchase improved farm machinery, or to buy additional live stock. It is the prosperous, aggressive and progressive farmer who is carrying the most of the farm mortgages; and, as a rule, he is carrying the load easily, paying it off with regularity, and making a profit besides.

The farmers of America, as a class, are not poor; they are rich. Rich in possibilities for the future—better and more abundant production, better and more economical transportation facilities; rich, in that today they are the subjects of more gratuitious effort for their well-being than any other class in the country. The relief which farmers require, is now within their own reach, and if it ever comes in any satisfactory form, must come through their own co-operative efforts.

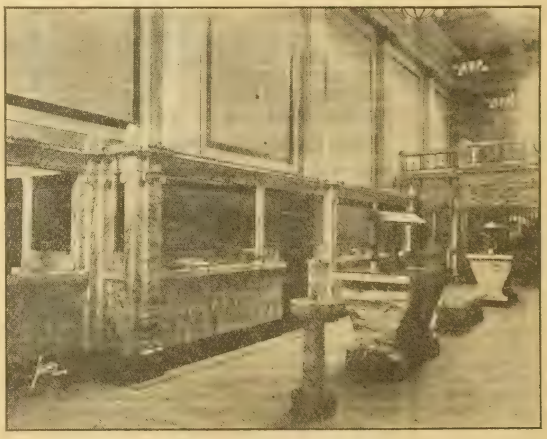
If the surplus cash of the Farmers of America were for one year deposited in Co-operative Financial Institutions, rather than in Capitalized Financial institutions, the beneficial effects would be enormous.

If these Farmers could be made to appreciate the fact that a co-operative institution, gives them back every cent their deposit earns above the cost of handling it, and that it is kept busy at work aiding and building up their own community with increased farm values, and constantly increasing community spirit, we believe that the Farmers themselves could in a very short time, bring to themselves through the use of their own money the financial relief for which they are asking.

Let me give you a few examples of what is actually being done by building association in making loans to farmers. In doing this, I crave your indulgence, while I give you a brief summary of what has been done and is now going on in the community in which I live; not that the home deserve special local conditions at my mention, but for the reason that it is a typical illustration of what is being accomplished in very many communities in dealing with farm loans. The association which I represent is located in one of the rural communities of Northwestern Ohio; a purely agricultural community, save a little manufacturing at the county seat, which is a city or about 8,000 souls. Our county has an area of about 400 square miles, mostly of exceptionally rich and fertile soil. Its development in the past fifteen years has been remarkably rapid, and prices of good farm lands have more than doubled.

Entrance to new home of The Springfield B. & L. Association

In Defiance county, Ohio, we have building associations, all having been in business from 20 to 25 years. The growth of our towns has been very moderate, and the demand for loans on town and city property was not sufficient to absorb the funds flowing in to our associations. The result was that each of the associations was practically forced into making farm loans in order to find an outlet for our accumulating funds. It must be admitted that we went into that kind of loaning with some reluctance and much misgiving. Some of the changes in the plan of payment which had to be made in order to make it fit the farmer's circumstances seem almost revolutionary; for example, the weekly or monthly payments which we had learned to consider as one of the vital features of the building association plan, we had to change into a semi-annual or, in some cases, annual payments. The average farmer gets his income once or twice a year, and there are frequent intervals of several months when it would be impossible for him to meet a payment on his loan. It took but a short experience, however, to teach us that there were advantages in these semi-annual payments that were worth considering; in the first place, it greatly reduced the work of the bookkeeper; it gave us a certainty of large receipts at times certain on which we could rely, and for which we could prepare months in advance. In making these loans my own association used the very same form of contract that we used in all our other loans. It calls for a fixed minimum payment, and instead of making the times of payment weekly or monthly the farmer selected his own date for his semi-annual or annual payment; such date as best fitted his circumstances, making it coincide with the seasons when his farm products are marketed and when he is best prepared to meet the payment. The amount of the payment required is not always the same. The standard which we prefer to follow in fixing the amount of these payments is that the payment shall be made semi-annually and



Showing part of interior equipment of new quarters of The Springfield B. & L. Association, Springfield, Ohio

shall be $6 on each $100 loan. In other words, the initial payment is to cover accrued interest and an equal sum applied to reduce the principal.

We have found, however, that our farmer patrons are not always able to carry so heavy a rate of payment. In such case, we not infrequently make the contract provide for a smaller semi-annual payment. The payment of $6 semi-annually on each $100 of loan, with interest at 6 per cent, will enable the borrower to pay off his loan in about twelve years. It is a simple problem to figure what smaller sum might be agreed on which would extend the time of payment over such period as might be agreed on between the borrower and the association. A semi-annually payment of $4 per $100 would extend the term of his loan to about forty years, and a payment of $5 semi-annually would give the borrower about twenty-five years in which to pay off his loan. Of course, all our contracts give the borrower the privilege of making larger payments than the minimum specified, or to pay off their loan in full at any time. Again, we sometimes provide in our contracts that for a certain term, say one, or two or more years, the semi-annual payment to be made by the borrower shall be the accrued interest only, after which his payment shall include such amortization sum as may be agreed on.

And, finally, we have some borrowers who insist that they wish a contract that calls for the payment of interest only, and for the payment of the entire principal at a certain time; in other words, what they are pleased to call "a straight loan." We give it to them, writing the contract on the same form as the others, making the minimum payment a sum equal to the semi-annual interest, and interlining a provision that the entire unpaid principal shall be paid on or before the fixed time agreed on. When this type of loan matures we do not call it, but permit it to run on; usually, however, we have an interview with the borrower, calling his attention to the fact that his loan is now past due, and urging him to adopt from that time on the practice of making some payment on his debt at each interest-paying time. This he usually does. Thus we developed the farm loan business in my home county, and at the beginning of this year the three associations held assets aggregating about $1,500,000, of which over $840,000 was represented by farm mortgages. In my own company not a penny of delinquent interest was owing by any farm borrower at our last semi-annual settlement, and my own company has never foreclosed a farm mortgage.

There is another feature which has developed from these dealings with farmers which we think worthy of mention; that is, while our building associations have been making loans to farmers, they have also taught the farmers that there is no place quite so safe, so convenient and so profitable in which to invest their surplus savings as a building association. And it is along this line that the proposed type of loan bank makes its gravest blunder. That whole plan is based on the proposition that the bonds it proposes to issue shall be sold in some mythical market in some distant place or in foreign lands. It overlooks the fact there are far more American farmers who are today looking for a safe and profitable place in which to invest their savings than there are farmers who are looking for mortgage loans.

The interest which has been awakened in this subject among the farmers themselves is very widespread, and is growing. This is a very opportune time, I believe to start a crusade among our farmer friends, preaching the gospel of "financial co-operation." They are ready to hear and to heed the message. Experiments in various forms of co-operation are already familiar to them in many parts of our country. Co-operative dairies and creameries and grain elevators have long been in successful operation by organizations of farmers.

Farmers are quick to realize and appreciate the fact, that The Building Association is the only type of financial institution that is always open to them on terms that are absolutely fair and equitable; the only institution where they can at any time get in on the "Ground Floor" and be sure that there is no scoundrel in the cellar; the only type of institution from which they are sure to receive every penny their investment earns. They are quick to understand that a Building Association can afford to pay a higher return on its deposits than any other type of financial concern, for the reason that it has no preferred stockholders who are drawing big dividends from the earnings on the money of the little depositors.

FEED CHILDREN

On Properly Selected Food. It Pays Big Dividends

If parents will give just a little intelligent thought to the feeding of their children the difference in the health of the little folks will pay, many times over, for the small trouble.

A mother writes: "Our children are all so much better and stronger than they ever were before we made a change in the character of the food. We have quit using potatoes three times a day with coffee and so much meat.

"Now we give the little folks some fruit, either fresh, stewed, or canned, some Grape-Nuts with cream, occasionally some soft boiled eggs, and some Postum for breakfast and supper. Then for dinner they have some meat and vegetables.

"It would be hard to fully describe the change in the children, they have grown so sturdy and strong, and we attribute this change to the food elements that, I understand, exist in Grape-Nuts and Postum.

"A short time ago my baby was teething and had a great deal of stomach and bowel trouble. Nothing seemed to agree with him until I tried Grape-Nuts softened and mixed with rich milk and he improved rapidly and got sturdy and well."

"There's a Reason."

Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

GRAND PRIZE
Panama-Pacific Exposition
San Francisco, 1915

GRAND PRIZE
Panama-California Exposition
San Diego, 1915

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BAKER'S COCOA

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It has the delicious taste and natural color of high-grade cocoa beans; it is skilfully prepared by a perfect mechanical process; without the use of chemicals, flavoring or artificial coloring matter. It is pure and wholesome, conforming to all the National and State Pure Food Laws.

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HOOSIER Stoves & Ranges FREE

To try in your own home for 30 days. Show your friends. Freight paid by us. Send it back at our expense if you do not want to keep it. You can buy the best at Actual Factory Prices. Our new improvements absolutely surpass anything ever produced. Save enough on a single stove to buy your winter's fuel. All HOOSIER STOVES Guaranteed for Years. Send postal today for large FREE Catalogue, showing large assortment to select from.
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Turns night into day. Gives better light than gas, electricity or 18 ordinary lamps at one-tenth the cost. For Homes, Stores, Halls, Churches. A child can carry it. Makes its light from common gasoline. No wick. No chimney. Absolutely SAFE.

COSTS 1 CENT A NIGHT
We want one person in each locality to whom we can refer new customers. Take advantage of our SPECIAL FREE TRIAL OFFER. Write today. AGENTS WANTED.
SUNSHINE SAFETY LAMP CO.
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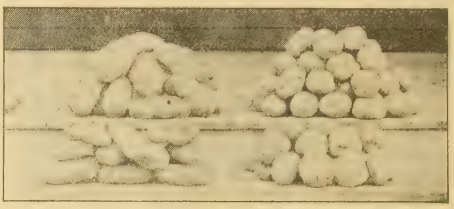
Make your own Fertilizer at small cost with
Wilson's Phosphate Mills
From 1 to 40 H. P. Send for catalogue.
WILSON BROS. Sole Mfrs., Easton, Pa.

FARMING WITH DYNAMITE

Showing the Varied Uses to Which This Mighty Power May be Applied

By Robert Cahoon

SINKING battleships and shelling fortifications are not the only uses to which high explosives are put nowadays. The twentieth-century cultivator uses dynamite on his farm instead of so many engines, horses, tools and laborers. Millions of pounds of specially prepared powders, are used annually by agriculturists and fruit growers, for cultivating and tilling crops and trees, making ditches and draining, and for removing and breaking up stones and unsightly stumps and other obstructions. The use of powder for these purposes is one of the most remarkable developments that has come to be a part of modern farming during the last few years. It really marks the beginning of a new era in the business of farming and fruit growing. It enables one or two men to do the work that formerly required at least a dozen men. These few men can do in a few hours or days what the many men required weeks or perhaps months to do.



These high-grade potatoes were grown in a field that was classed as "abandoned" before it was cultivated with explosives. Photographs from Pennsylvania Railroad Demonstration Farm

Best of all, however, the proper use of powder is the means of making much poor, and otherwise almost worthless, land productive. Any up-to-date, experienced farmer can take nearly any so-called "abandoned" farm in the United States today, and convert it into one of the most valuable tracts of land suitable for vegetable or fruit growing. And this is no idle dream! Old-fashioned dynamite has been used for stump blowing for many years, and common blasting has been tried by many people for various purposes without much satisfaction, all because they did not do the work in the right way. The specially made farm powder, that is adapted to use in agriculture, is not like common dynamite, and therefore is not dangerous when reasonable precautions are taken and common sense used. So great is the farmer's demand for explosives that six great plants, distributed throughout the country, are being operated by one of the big powder companies, a concern of Wilmington, Delaware, to supply high explosives specially adapted for all lines of agricultural work. The newer explosives, instead of shattering the soil, lift, heave and crack it, as these charges are placed so deeply in the ground that they do not blow out the soil. They simply pulverize it, and do a lot of other things of a chemical nature that are of great benefit to plants and trees. Not more than one stick—and sometimes only half a stick—is used in a single charge.

It is a great sight to see a series of blasts all going off at once. In ditching, even the electric blasting machine can be done away with by skillful operators. Sometimes the charges are fired by means of the old-fashioned fuse and caps; but oftener they are set off by the more modern and interesting method of the electric blasting-machine, which explodes many charges simultaneously. For a ditch, the charges are put into the ground about 20 inches apart, and then the middle charge of a long row is primed quite heavily and with twice as much dynamite. The shock transmitted through the ground by each charge is strong enough to explode the charge adjoining it, and so on to the end of the long row, which may be a quarter of a mile or more.

How large boulders are broken up by properly placed charges of powder

Imagine several hundred yards of ditch all blown at once! The dirt and stones, mud and water fly high into the air in a long line, and scatter out smoothly and evenly over the surrounding fields, making shoveling practically unnecessary. Think of the labor which would be required with picks, shovels and axes. As might not be generally supposed, ditches made in this manner are smooth and even, and they square up at the sides after the water gets into them as nicely as though they had been cut with a spade.

The Michigan State Experiment Station—which, by the way, has tried dynamite in various ways with pleasing results—states that it costs only half as much to dig ditches with explosives as by the best of other ways. It appears that the old excuse given by the owners of badly drained farms, that they haven't time nor men to do the ditching," will no longer do.

Of course, nearly everyone is more or less familiar with the use of explosives for blowing out stumps. Stumps that are blasted out are broken up into easily lifted or hauled chunks, and at the same time cleaned of dirt. The explosive, and work of blasting together, doesn't cost any more than pulling, not taking into consideration the cost of disposing of the stumps after they are pulled. Speaking on this subject Bulletin 91, issued by the United States Department of Agriculture says in part:

"Explosives have the advantage of thoroughly breaking up the stumps, of not requiring a large force of men for clearing operations or a large cash outlay at one time and of enabling the work to be done quickly. Where medium-sized stumps have been well blasted the problem of disposal is relatively simple."

In blasting large stumps when the ground is dry a great dust is often raised. It is an easy, quick way to clear new land

But the real big use of farm powder is going to be for sub-soiling, preparing tree beds and cultivating crops and trees. There is a good deal of what almost amounts to magic in what the dynamite does when rightly used for these purposes.

The three big benefits derived from the blasting of soil are that it really, in effect (1) adds plant food to the soil, just as though expensive fertilizer were applied every season for many years; (2) it increases the amount of moisture in the ground, and thus does the same work as irrigation; and (3) it loosens the ground so that roots may penetrate it more extensively and grow finer. The plant-food matter is a complicated one at first thought, but very simple when understood. It is a well-known fact that the three vitally important plant foods are nitrogen, phosphorous and potash. Plants use other foods, but in such small quantities that they are never lacking in soils. Now nitrogen comes from the air.

The air is four-fifths nitrogen. And it is the most expensive of fertilizers. The present market price—in the different commercial forms in which it can be purchased at all—is upwards of $300 a ton. So unless you are so fortunate as to have some rich relative, or a little mint back of your agricultural operations, you cannot well afford to buy much of it. No farmer who depends on the income from his yields, at least, can afford to buy it, therefore the problem is to capture it from the air over the land. The getting of phosporus and potash is somewhat different, though here again we find a problem of utilizing stores of these plant-foods that already exist on almost all farms, and of not buying commercial fertilizers.

There is hardly an old rundown (abandoned) place anywhere that does not contain in the top few feet of ground enough potash and phosphorus to feed crops for a thousand years, if only plants could get it. In fact, professors have declared that there is enough plant-food in the poorest white beach sand to sustain plants for several hundred years. The trouble is that the plants cannot get it because it is what agricultural scientists call "insoluble"—i. e., it will not dissolve in water, and it must be dissolved before roots can get it at all.

Now dynamite offers a means of drawing this nitrogen from the air, and also of making soluble and available the hidden potash and phosphorus in the earth.

How this takes place is too big a matter to explain here. But suffice to say that when the enormous pressure from the explosion forces the air out of the ground and opens up the soil there is a vacuum created. Just as soon as the pressure is exhausted, there is an inrush of fresh air into the ground. It would be impossible to keep it out. This air carries with it much nitrogen that is captured and given to the roots. But by far a much larger quantity of nitrogen is captured and added to the fertility of the soil by indirect means that result from blasting.

The blasting causes the potash and phosphorus to change in condition no less interesting and no less certain. One

(Concluded on Page 34)

University Experts rate Economy Gasoline Engines with 13 to 31% Overload Capacity

Sears, Roebuck and Co.,
Chicago, Ill.

Urbana, Illinois,
August 26,1914.

Gentlemen:-

In accordance with your request, the undersigned visited your engine factory at Evansville, Indiana, and tested for brake horse power and fuel consumption the different sizes of your engines after same had been passed by your testing and inspection departments, and we submit a full report under separate cover.

In regard to the rating of these engines, while the relation of rated load to maximum load for gasoline engines has not been standardized, the best authorities seem to agree that an overload capacity of 15 per cent is sufficient. We understand that you wish to give an overload capacity that cannot be questioned. We have therefore recommended the following ratings which will, in all but one case, give a much larger overload capacity as may be seen by referring to the table enclosed.

As to the fuel used, you will find on referring to our report that when running at half, full or maximum load the fuel consumption of the several engines was very satisfactory.

Yours very truly,

D. W. Dickerson
Associate Farm Power Machinery
University of Illinois.

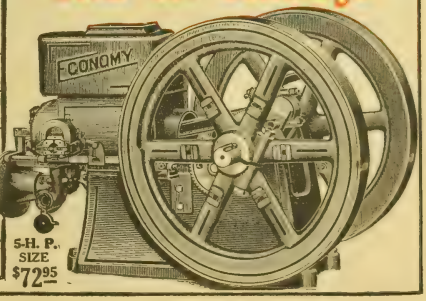
H. F. Rodeke
Instructor Mechanical Engineering
University of Illinois.

Report of University Experts

Bore and Stroke of Engines Tested	Maximum Brake Horse Power each Engine Pulled	The Horse Power Ratings We Recommend	Giving Each Engine an Overload Capacity of
3¼×5	1.69	1½	13%
4×6	3.28	2½	31%
5×7½	6.02	5	20%
5¾×9	8.66	7	23
6½×11	11.44	9	27%
7½×12	14.38	12	20%

Free Engine Book, telling all about this wonderful test and describing our full line of Economy Engines, mailed on request. Write for it today. Ask for Engine Catalog No. 69P12

Sears, Roebuck and Co. Chicago



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POULTRY FOR PROFIT

Some Things Which Help in Changing the Balance to the Right Side of the Ledger

By T. Z. Richey

CULLING

The time to cull in the poultry-yard is all the time. Whenever a hen shows signs of having outlived her usefulness, I dispose of her as quickly as possible. During the winter months an occasional old hen gets so fat that she bags badly behind. She is too fat to lay, and getting her in shape to lay again is almost impossible. Such a hen, however, is in prime condition for marketing or eating.

I like to have my pullets of uniform size, and I believe that the pullet that grows slowly, and never reaches the size of her sisters, makes a poor layer. It is certain that such a pullet never possesses the strength and vigor of the one that grows rapidly and to full size.

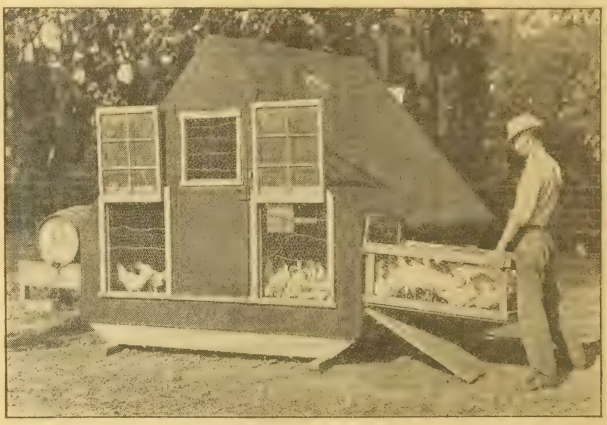
Several years ago I worried along with a lot of five pullets that were especially well marked, but grew very slowly. Like many others, I held to the idea that perhaps the pullets would outgrow their "runtiness." But when one after another came down with roup, which spread to the general flock, I realized my mistake. I now dispose of all runty birds as soon as I am certain that they are not developing properly. A runty, slow-growing bird is always deficient in vitality, and falls an easy prey to disease.

I always keep, up to early winter, double the number of cockerels required for breeders. This is done so I can make a choice from matured birds. Culling out the least desirable is a task that requires close observation. In general, I want my male birds to possess vigor. Feather-coloring and fancy points are not considered. The male that I choose must be well boned, must have bright red comb and wattles. The male bird that takes to the field or "ducks" when another comes within fighting distance, decides his own fate. Such birds are deficient in vigor and are marketed. On the other hand, the male bird that whips everything on the place is the one that possesses the most vigor and strength, and is capable of transmitting these traits to his offspring.

THE EGG-EATING HABIT

The egg-eating habit, when firmly established in a flock, is often hard to control. If but one or two hens are addicted to the vice, perhaps the easiest manner to handle the situation would be to dispose of the offenders before the vice spreads to the rest of the flock.

Unless hens in confinement are kept busy the habit will likely result. The hen should be made to scratch diligently in deep litter for every whole grain she gets. The idle hen is the one that forms the habit. Hens on range seldom contract the habit as they are in or about the house only while laying.



Catching chickens with coops that just fit the door. One man inside drives them in. It saves trouble, time and labor

Perhaps, the most frequent cause of the trouble is the lack of animal and mineral foods in the ration, and the hens' craving for these essentials. Animal food, in the form of beefscrap, green bone or milk should be fed regularly, and grit and oyster-shell should be kept before them all the time.

The feeding of egg-shells which retain the egg-shape, and which often have particles of the egg-material adhering, is a frequent cause of the trouble. Egg-shells supply the hens with lime, but in feeding them, they should be pulverized. A good method is to brown them in the oven, when they will pulverize easily. The browning will not injure the food quality of the shells.

The accidental breaking of eggs should be guarded against by having the nests shallow, so the hen will not break the eggs already in the nests when she enters to lay. The nesting material should be kept soft and spongy.

The above are given in the nature of precautionary measures, but when the habit is firmly established in the flock, what then? No doubt, the best way to proceed is to provide dark, low-covered nests. The top of the nest should be so low that the hen will barely have room to creep on and off. The idea is, to so crowd the hen for top room that she cannot stand erect in the nest, as only in an erect position can she get at the eggs with her beak.

Another method is to crowd the hens for nest room and gather the eggs every two hours. If the nests are kept occupied and the eggs gathered frequently, the egg-eater has little chance.

Still another method that the writer has successfully tried, is to make a hole in the end of an egg, let part of the contents escape, and fill in with cayenne pepper. The egg is then placed in an exposed location. The egg-eaters soon pounce upon it, and the coughing and sneezing that results show that the treatment is effective. Several such treatments may be necessary.

ROUP

Roup is the most serious disease that the poultryman has to contend with during the winter months. Roup usually results from neglected colds, and when once established in a flock is highly contagious. The disease usually results from dampness, drafts or impure air. Hens that are housed in open-front houses are not nearly so likely to contract colds or roup as are hens kept

(Continued on Page 30)

See Cash-Prize Offers for Poultry Contributions on Page 3

"Standard" Bargains

bring greatest Xmas Cheer

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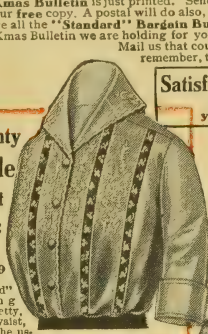
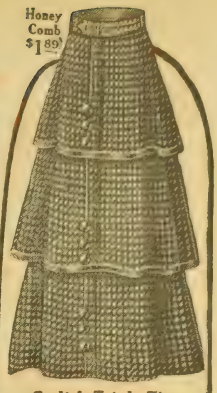
VW1—An unheard of bargain. Handsome **Brocaded Velvet** waist, a $2.00 value for $1.00. This is the biggest bargain we have seen offered anywhere and you'll also be unusually pleased with the smartly tailored, button-front style. Becomingly bloused and displays a tasteful trimming in the gros-grain poplin collar and fancy cuffs. A rich, dressy Velvet waist, will wear splendidly and is really wonderful value at this low price. (In black or navy blue, sizes 34 to 46 bust.) **Postpaid** in the U. S., only **$1.00**

Dainty Voile waist 49c



1HW49 Another "Standard" leading value. Pretty, dressy waist, equal to the usual 79c and 89c values sold elsewhere. Daintily made of serviceable quality white **Voile,** and displays a pretty trimming of shadow lace insertion and beautiful embroidery panels. The becoming "roll" collar is of embroidery and the closing is effected in front. (*Sizes 34 to 46 bust.*) Our bargain price, postpaid in U.S. **49c**



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HS189—Extremely becoming, popular triple-tier girdle skirt, splendidly tailored of black-and-white **Honeycomb Cloth.** The flounces are smartly bound with silk braid and the front flap seam is correctly button-trimmed. Provided with a matched, detachable belt.

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$1.89

2H4R98. Serviceable Flannelette dresses, in dark grey stripe patterns. (*2 to 6 yrs.*) **Postpaid,** 4 for 98c

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HR95—Attractive "blouse" dress made of serviceable quality, pretty **Galatea-Stripe** material in blue or tan. Trimmed with white pique collar, cord tie, plain color vest-tabs and girdle, cute self peplum in skirt.

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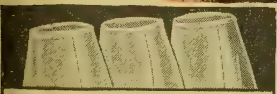
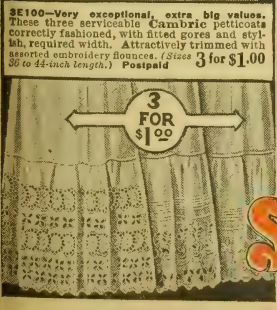


3E100—Very exceptional, extra big values. These three serviceable **Cambric** petticoats correctly fashioned, with fitted gores and stylish, required width. Attractively trimmed with assorted embroidery flounces. (*Sizes 36 to 44-inch length.*) **Postpaid** 3 for $1.00



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Poplin Dress $1.59

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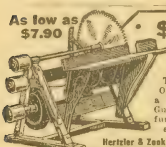

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The Philosophy of Good Farming

Reasoned Out From the Four Corners and Brought to the Center

By H. A. Bereman

MIXED FARMING

The salvation of the average farmer is diversified farming. First of all he has a self-supporting home; he gets a living from his own acres. If he is clever, and understands the game, he can grow a money-crop specialty that will be profitable in proportion to his hustle and gumption. But he will prosper most surely by having a little cash coming in every day or so in the year. This beats trying to make a Big Splash in wheat or cattle, ginseng or squabs.

Mixed farming is best. Under this system a few good cows are kept, and every week their butter, cream or milk sells for cash. There is a place on almost every farm for a dozen sheep. They will not require much care, and they eat stuff that would otherwise be wasted. The first thing you know you have a tidy bunch of wool and mutton that is almost clear profit. Hogs and alfalfa make cheap meat. Besides the family pork barrel there is good money selling a few dressed hogs to the local merchants, to say nothing of choice, farm-cured hams and bacon for discriminating consumers who do not ask the price. Then there is a colt every year growing into money while you sleep. The average farm hennery is no great shakes perhaps, but six or seven dozen eggs a week, and now and then a crate of fat hens in their second-year form—it is amazing how the littles count up. Taken altogether they spell "p-r-o-s-p-e-r-i-t-y."

It would be foolish for the average farmer to try to raise a thousand turkeys, or a thousand geese, or forty acres of strawberries, or a hundred acres of pop-corn. Raising special crops takes special business sagacity. Yet every man who lives on the land can raise a few choice turkeys for Thanksgiving Day. He can have a dozen fat geese ready for Christmas. He can handle a half-acre of strawberries without injury to his staples. He can cultivate a whole acre of pop-corn to the tune of three or four cents a pound, and gladden the hearts of hundreds of city kids in the bargain. Neither of these specialties will make or break a man, but they help to employ his time and labor throughout the months with small risk. The one-crop plan is unsafe, no matter how attractive it looks sometimes.

No sensible man looks to escape work. He expects to prosper by exchanging his mental and bodily energies for prosperity. He knows that work which brings results is man's greatest blessing.

One good thing about the farm is that it is a place for work. I once heard a city mother complaining that her children would soon have three months of vacation on their hands and she was distracted to know what to do with them until school started again. The enforced idleness of city youngsters is demoralizing. Fortunately country children have something useful and wholesome to occupy their interest at all seasons. Sometimes they have to work a little too hard where parents are thoughtless or ignorant, but for the most part the healthy and contented boys and girls live on farms.

Having plenty to do is as good for grown-ups as for children. Luxuries and comforts are bought with money; money is made from crops; crops are made from labor. All wealth is the product of labor. Land is worthless until man comes along and does something to it.

The farm is a place for work, and the shrewd farmer welcomes and seeks chances to convert his brains and brawn into a bank account.

Diversified farming maintains soil fertility; it avoids the serious losses incident to the growing of a single crop; it keeps all hands occupied throughout the year; it permits of an intelligent scheme of rotation; it broadens the mind and enlarges the experience. "Put not all thine eggs in one basket." is as sound today as when Ben Franklin wrote it a hundred and fifty years ago.

WHAT'S REQUIRED OF THE FARMER

Farming is a regular man's job these days. Forty years ago if a boy was no good they made a farmer out of him. Now it takes more brains to be a farmer than to be a banker or anything else. All a banker has to do is to make a pretense of looking dignified, and to know when to keep his mouth shut. A lawyer must know the law, a doctor medicine, a preacher theology, a merchant how to keep down expenses and get rid of shelf-worn stock, but a farmer must be a chemist, a botanist, a bachteriologist, an animal breeder, a machinist, a carpenter, a mason, a surveyor, a landscape architect, a bookkeeper, a salesman and an all-round business man.

A farmer is both capitalist and workingman, an employer and employee. He is the one ultimate producer of raw materials from the soil, but he gambles every day with the weather, with myriads of insect pests, with insidious plant and animal diseases, and with market quotations he is never allowed to monkey with.

In addition to all this he is asked to concern himself with co-operation community building, soil conservation

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rural credits, marketing, better roads, better schools, better tenant systems, better citizenship and fifty-seven varieties of rural reforms not herein enumerated.

The white grubs eat up his corn and his pastures; the Hessian fly gets his wheat; the late blight plays hob with the potatoes; cholera attacks his hogs, and the foot-and-mouth disease gets the rest of the stock; quack grass and a thousand other weeds flourish in wet seasons, and drouths cut short his harvests; labor is scarce and sassy; prices on farm products are ten years behind those on what he has to buy; interest eats up the profits if he borrows money; a cyclone blows his house away if he is prosperous; he works all day and sleeps all night and hankers for excitement on Sunday.

On the other hand the farmer is the only independent citizen on earth. He doesn't have to run when the whistle blows. No soulless corporation can fire him when business gets slack. He lives in the great outdoors, where nature smiles and he doesn't have to negotiate the smells, noise, dirt and ugliness of the metropolis. He raises his children in the only place fit to raise children—on the farm. He owns an automobile, and his work is all done by automatic machinery. The quarter section he bought for $1.25 an acre from Uncle Sam is now worth $250 an acre. His neighborhood club meets every-so-often, and has more fun to the square inch than all of High Sassiety put together. He is a regular, little, old Nabob living on the sunny side of E-Z street and he doesn't give one continental hoot whether Bizness is Bum or Politics are Rotten.

Being a farmer these days is Some Joke, believe us!

BETTER MARKETING METHODS

The two biggest words in the farmer's lexicon today are "efficiency" or "doing it right," and "conservation" or "cutting out the wastes."

An example of wastefully doing it wrong is the present round-about method of distributing farm produce. The wide gap between what the producer receives and what the consumer pays is responsible for the high-cost-of-living problem which yearly grows more acute. Also there is a suspicion that agriculture is not as profitable as it might be, due largely to the iniquities of arbitrary influences which control prices on the merchandise of the farm.

Our present marketing methods need reformation, but it is idle to blame commission merchants, grain buyers, stockyard magnates, etc. These individuals are not personally at fault—it is the system that is wrong.

The only marketing plan sanctioned by justice and common sense is that which will carry the products of the field to the table of the consumer in the most direct and economical way. We must eliminate the middlemen who do not render useful and necessary service.

Farmers' organizations, co-operative buying and selling, developing a retail market by going direct to the consumer, the use of the parcel post, holding non-perishable products for a definite price, and in a general way to give more attention to salesmanship and the business side of farming—these will unravel the wasteful tangles if they are used with intelligence and loyalty.

Prof. Willis L. Moore

Ex-Chief of the United States Weather Bureau

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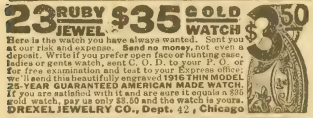

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Late Fall in the Garden

Efficient Work at This Time of Year Makes Profit Possible in the Spring

By Charles H. Chesley

MULCHING STRAWBERRIES

There is one good reason why the strawberry bed should be mulched in the late fall, notwithstanding the fact that the berry plant is perfectly hardy. On some soils heaving is caused by alternate freezing and thawing. This can be avoided by mulching. Again the buds, or the tender embryos, that are formed the previous year, are sometimes killed if no protection is given. If the plants are set by the hill method, and especially if the soil is heavy, heaving may cause a lot of damage. Also, by this way of planting the tender buds receive little protection from the foliage. In thick matted rows the leaves stand closely together, and not only keep the ground from loosening, but serve as a protection for the buds. While there may be no injury to the plants without mulching for a long period, yet it is much better to play safe and cover them.

Meadow or low-ground hay of cheap quality is the best material, and we believe there should be enough of it to cover all the plants in good shape. In the absence of hay, cornstalks may be used. This is a good way to dispose of the old stalks left after the cows have eaten all they will. If hay or stalks are not available, dry pine-needles make an excellent substitute. Go to the pine woods where evergreen trees stand closely together and gather the quantity needed. Leaves from deciduous trees also answer the purpose, but boards or timbers should be put over the bed at intervals to hold the mulch where it belongs and keep it from blowing away. Coarse strawy horse manure also answers the purpose excellently.

If we were sure that snow would fall early in the winter, and remain on the beds until spring, there would be no need of artificial mulching. Snow affords the best protection, but alternate covering and uncovering may bring undesirable results. The one objection to mulching in the fall is the fact that the covering must needs be removed in the spring before cultivation can be attended to. The mulch will, in a large measure, however, do away with the necessity of cultivating in the spring. If the material is raked away from the rows and hills, and left in the open spaces, it keeps the weeds in check and conserves a good deal of moisture.

KILL THE PESTS IN THE FALL

Although there is not much visible evidence at this season that insect pests are everywhere about us, yet they are here, nevertheless, either in some stage of development or in the egg embryo. They do their work of destruction in the spring and summer, when the myriads of young are hatched—numerous enough, in some cases, to eat up almost every living twig. If we know where to look for them, many of the pests can be destroyed during this month, and one insect killed now is as good as a thousand next spring.

Insects that hibernate in the ground during the winter may be considerably checked by late fall plowing. This is especially true in the case of sod lands. Some of the pests that are in the ground at this time are: wireworms, cutworms, white grubs, corn-ear worms, squash-vine borers and potato beetles. All these and many others are affected more or less by late fall plowing. Grasshopper eggs are placed an inch or two below the surface, ready to hatch at the return of warm weather, and these are either buried so deeply they can never emerge or turned up to the surface and destroyed.

Wire-worms and white grubs are perhaps among the most difficult of pests to eradicate. This is because of the fact that the perfect insect does not appear until from two to three years after the eggs are hatched. Land that is plowed in the fall is usually less troubled by these insects. Where potatoes are to be planted next spring, it is especially desirable to plow in the fall, as many of the worms are thereby gotten rid of.

Some garden insects live over until the following year in the old stalks, or among the vines of the plants originally attacked. The potato-viné borer lives in the old stalk. Also the dead vines serve as a means to carry over the wilt and rust diseases. Squash bugs and cucumber beetles spend the winter hidden away among the old vines, and about any rubbish that may be left in the garden. The same is also true of the cabbage maggot, the flea beetle and the harlequin cabbage-bugs. All such refuse material should be disposed of. In some cases it is safe to add it to the manure heap, where it will be softened and decomposed by the acids. If there is reason to believe that the waste is badly infected, it is best to burn it up before it does further harm.

Many of the orchard pests may be checked to a considerable extent by work in the fall. The old practice of scraping the trunks and larger limbs of the apple trees is a good one, as a great many eggs are deposited in the cracks and fissures. The cocoon of the codling moth is often hidden in such places. This is the pest that is responsible for wormy apples.

FORCING RHUBARB AND OTHER PLANTS

Rhubarb-forcing has become quite an industry in market-gardening sections in recent years, and the better markets now furnish the winter product. The process is simple, and can easily be carried out in the home cellar.

The first requisite is strong plants. Professional growers use two-year-old roots, setting them out in the spring and encouraging a vigorous summer development. Any vigorous roots will do, however, provided they are not spring seedlings. The winter growth is not new growth, rather it is the development of energy stored up in the roots during the summer. Clumps should be dug in November, and left in an open shed or a shady spot on the north side of a building until desired for forcing.

A good plan is to set these clumps in the bottoms of barrels in the cellar, first putting in a few inches of damp garden soil. If the barrels are covered, so the plants are in absolute darkness, the growth will be slow, but the quality of the product will be of the highest. To get a supply early in the winter the roots may be set in boxes, where more light will reach them, or a lighted lantern placed close at hand.

Any temperature above 45 degrees will cause the rhubarb to grow, but something around 50 is usually about right. At 45 the growth is very slow, and the stalks will not reach a size suitable to use in less than two months. With a higher temperature the growth may be forced in five weeks.

Roots dug in the fall may be kept in a frozen state as long as desired, if they are not allowed to thaw. They can thus be placed in the cellar for forcing at intervals that will insure a succession all through the winter and early spring. Stalks grown in this way are much superior to those grown outside, being white and very tender.

Sometimes onions are forced in the same way, the stalks growing long and of excellent quality. Asparagus roots may also be taken up, as are rhubarb clumps, and made to start into winter growth by the same methods. For this, however, the temperature of the cellar should be above 50, and the darkness should not be total. The lighted lantern works well with asparagus.

The French artichoke is another excellent vegetable that adapts itself to cellar forcing, as also does witloof chicory. With the latter it is necessary to raise the plants from spring-sown seed, taking them up and planting in a deep box in the cellar. Plants blanched in this way are superior to those prepared outside in the ordinary way.

THE VEGETABLE PIT

Where there are many vegetables to be kept through the winter, it is advisable to build a root cellar or pit. The cellar of the house will answer for ordinary needs, but market gardeners, and those who raise roots for the live stock, need better storage facilities.

A permanent pit may be made in the following manner: Select a well-drained hillside, dig down some six or seven feet, and construct a double-pitch roof with a door in front. This allows for digging back as far as desired to provide storage room. Such a building, partially or wholly made of cement, will last for a long time, while if it is constructed of wood it is good for a number of years. When the cold weather of winter comes on cover the roof and sides with horse manure or meadow hay to keep out the frost.

If no building is erected, a temporary storage pit may be made in any well-drained location. Stake out the pit six or seven feet wide and of the length desired, having the long way extend north and south. Plow the soil to the depth of eight or ten inches, and shovel this out on either side, forming a kind of wide trench. Pack the vegetables closely together, beginning the pile the width of the trench and drawing together at the top in a ridge. This pile may be made long enough to take care of the entire supply, or different pits may be made for each kind. When the vegetables are in place, cover with a few inches of straw or meadow hay, then throw three inches of earth on the straw, and wait until the weather becomes cooler before adding the full covering. More earth should be thrown on as needed, until there is at least six inches of earth on top of the straw.

To allow for ventilation the earth should not entirely cover the straw at the ridge. This allows for the warm air to escape and prevents rot. When the earth covering freezes into a crust, pile on plenty of straw to prevent frost from getting in. At the front end, instead of covering with earth, use a larger amount of straw. As vegetables are taken out during the winter the top and sides can easily be broken down, while the front protection of straw is moved forward.

HARD ON CHILDREN

When Teacher Has Coffee

"Best is best, and best will ever live." When a person feels this way about Postum they are glad to give testimony for the benefit of others.

A school teacher down in Miss., says: "I had been a coffee drinker since my childhood, and the last few years it had injured me seriously.

"One cup of coffee taken at breakfast would cause me to become so nervous that I could scarcely go through with the day's duties, and this nervousness was often accompanied by deep depression of spirits and heart palpitation.

"I am a teacher by profession, and when under the influence of coffee had to struggle against crossness when in the school room.

"When talking this over with my physician, he suggested that I try Postum, so I purchased a package and made it carefully according to directions; found it excellent of flavour, and nourishing.

"In a short time I noticed very gratifying effects. My nervousness disappeared, I was not irritated by my pupils, life seemed full of sunshine, and my heart troubled me no longer.

"I attribute my change in health and spirits to Postum alone."

Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms:

Postum Cereal—the original form—must be well boiled. 15c and 25c packages.

Instant Postum—a soluble powder—dissolves quickly in a cup of hot water, and, with cream and sugar, makes a delicious beverage **instantly.** 30c and 50c tins.

Both kinds are equally delicious and cost about the same per cup.

"There's a Reason" for Postum.

—sold by Grocers.

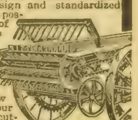
Valuable Poultry Book FREE

If you raise chickens and want them to produce **real** profits, write E. J. Reefer, the poultry expert, for one of his fascinating books which tells how to make the average hen lay 200 eggs every year. It contains scientific facts of vital interest to every poultry raiser. Send name and address on a post card or a letter and the book is yours absolutely free

E. J. Reefer Dept. 3568 Nelson Bldg. **Kansas City, Mo.**

PRICES LOWER \$26.75 \$34. \$39. \$77.

LOOK at these prices! Any size engine from 1 1-2 to 6 h. p. stationary or mounted, at proportionate prices. Our great volume, modern, up-to-date simplified design and standardized manufacture make these prices possible. Hundreds of thousands of Galloway customers testify to the quality of Galloway built and sold direct goods. Do not buy an engine, spreader or cream separator until you know all about our new low, cut-down-to-bedrock **summer prices.** Manufacturing improvements have enabled us to slash the price and maintain the quality. All Galloway goods sold on a binding money-back if-don't like them plan. Don't buy until you first get our NEW BOOK and new low cut-and-slashed prices for the summer. Shipped from Chicago, Waterloo, Minneapolis, K.C., Council Bluffs.



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Made to Your Measure

Do you want this swell suit? Want it for nothing? Without a penny's cost? \$30 to \$40 would not buy a better one. Simply wear it, tell your friends where you got it—and

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taking their orders. It is dead easy. You never saw a nobbier suit or a more stunning pattern, cut in strictly Tango style (3 months ahead of the times). Your choice of 60 patterns and a dozen styles to choose from. Drop us a postal card for heavy pattern book, inside information about styles, self-measuring blanks, etc., etc. DON'T WAIT. Everything FREE.

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Get ahead of other fellows — Write this minute. Postal will do it.

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Comfort Self Heating Iron

5 Hours at Cost of One Cent

Two points. Quick lighting. Self cleaning and perfect regulation of heat. Weighs six pounds. Guaranteed safe and satisfactory. Price \$3.75 each from your local dealer or direct by prepaid parcels post. Order Today — Agents Wanted.

NATIONAL STAMPING & ELECTRIC WORKS
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AGENTS

AN IDEAL FARM TOOL

The harder you pull the tighter it grips. Adjusts itself instantly and automatically to fittings, pipes, rods and nuts. Most practical and best farm tool made. No monkeying—no adjusting. Agents send for our Profitable Offer. Send stamps or money order for samples 9 in., 50c; 12 in., 75c; 16 in., \$1.00, sent postpaid.

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31 PIECE DINNER SET FREE

For selling 12 boxes White Cloverine Salve at 25c. per box. Give beautiful picture free with each box. Everybody buys 2 to 3 boxes when you show pictures. Send for one dozen today.

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EDWARDS Metal Roof

Get the roof that stays and pays—"any roof" won't do. The Edwards is the one roof that is absolutely fire-proof, rust-proof, and rot-proof. The Edwards Interlocking Device and the Edwards "Tightcote" process settle those questions once for all. No raw edges. No spots. One man with a hammer can lay it.

Cheaper and Better

Stays "PUT"

Cheaper in the first place; cheaper in the long run. The Edwards costs less and lasts longer than any other roofing material. When you put on this "one-piece" roof, it's on for good. All sizes and styles. Comes in big sheets. Handy to handle.

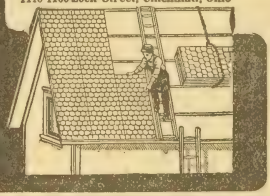
Our $10,000 guarantee bond also gives you

Free Lightning Insurance

Write for our Bargain Catalog No. 1160 Give size of roof and we send complete cost estimate.

Get our figures *now* before prices go up. Write today—right now.

The Edwards Manufacturing Co.
1110-1160 Lock Street, Cincinnati, Ohio



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Beautiful Gold Embossed

These cards are lithographed on fine bristol cardboard in ten colors and embossed in gold and silver. You need not be ashamed to mail these cards to friends and relatives. Each card is different and the Souvenir Booklet is certainly a dandy. The complete set will be mailed postpaid to any person sending 10 cents to pay for a 3 months' trial subscription to our big Farm magazine. Send 10 cents today to

FARM NEWS
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FREE MOVING-PICTURE MACHINE and 7 FILMS

Complete with 215 views, 250 other presents free for selling our Gold Eye Needles. Easy to sell, 2 packages for 10c with thimble free. Order.

WE TRUST YOU

When sold return $1.50 and receive premium entitled to, selected from our premium book.

Keystone Gift Co., Box 388 Greenville, Pa.

Attention Pork Smoked Sugar Cure. Preserved. Combination seven delicious flavors. Six week cure. Never equalled. Printed recipe 25c, silver or money order ARTHUR CALLAHAN, Mount Tom, Mass.

WOOL SWEATER COAT FREE

Roll collar, two outside pockets and cuffs. Fine warm garment. Send name and we'll send you 8 set pictures to distribute on special 25c offer. Send money collected and we send sweater, any size or color. M. O. SEITZ, 11143 CHICAGO

32 NICE POST CARDS different sorts and a Good Magazine for one year. The WHOLE THING for only ten cents. ROBERTS & CO., 326 MADISON ST. CHICAGO

The Commercial Hog

Profit in "Hogging Down" Corn, Providing Forage Crops, and Balancing the Grain Ration

By Lester J. Meredith

I HAVE had some experience in growing feed for hogs and turning them out to harvest the crops. Several years ago we turned ninety hogs out, and for seven weeks they hod the run of a field of corn and helped themselves. These hogs ate during the seven weeks about two acres of corn per week, cleaning up a fifteen-acre field in about seven weeks. I believe the waste was less than when they were fed in the yards.

The intelligent use of forage crops will reduce the high-priced grain ration about forty per cent

In this way the hogs tear down the corn as fast as they want it, and clean up very nearly (especially in the early period of feeding, when they are hungry) each stalk or hill before going to the next. Toward the end of the feeding period, when their appetites are well sated, some corn will be left on the ground. But by allowing a bunch of breeding stock, or fall pigs, to follow the fattening hogs when they are changed to another part of the field there is but slight waste. One advantage of this plan is that the manure is distributed all over the field evenly. Another merit is that the hogs are exempt from disease and more thrifty, as the husks and stalks being still somewhat succulent, enough is eaten to lighten the ration, and make it much safer than the feeding of corn alone. In "hogging down" a corn field I would advise that the hogs be fed for a couple of weeks, as soon as the corn is glazed, by cutting the corn up, beginning with a moderate feed, and increasing gradually until their digestive systems become accustomed to the change.

Carefully conducted experiments in hog feeding prove that it is possible to reduce the amount of grain foods about forty per cent by the intelligent use of pasture and forage crops. As soon as the hogs have consumed one crop another should be ready for pasture. Land that is used for hog pasture gains in fertility rapidly, especially if the legumes are grown for pasture crops, and the land refitted and sown as soon as the hogs are turned into a new pasture.

Some farmers advocate growing pigs on forage and pasture alone, but my experience with alfalfa convinces me that it pays to supplement it with grain foods. While living in Kansas, where alfalfa and blue grass thrive, I found that better results could be attained by feeding considerable corn to my pigs and breeding hogs. A pig that is grown on forage crops, with just enough grain food to maintain an even and vigorous growth, is capable of eating, digesting and assimilating more grain food when placed in the fattening yards than one that has been developed on a less bulky ration. The forage helps to enlarge the digestive system, and prepares it for the heavy-feeding period to follow. I have made a careful study of this phase of hog feeding, and I find that the cheapest gains come from feeding grain to the pigs along with the forage crops.

Alfalfa and clover are unexcelled in the list of forage crops for hogs. In pasturing alfalfa I have found it best to allow the pigs to have the run of a large area, and cut and cure for hay all that is not consumed. In this way there is little wasted, and the pigs have choice grazing at all times. It also prevents them from rooting and damaging the crowns of the alfalfa plants. Red clover may be grazed closer, as there is less loss if the stand is lost, as it requires annual seeding to insure a good stand. It makes its most vigorous growth from April until June, and a second growth from about the first of August until cold weather comes. Pasture close until the first of July, and withdraw the pigs until the middle of August, or later, if the season is extremely dry.

Blue grass is an excellent flesh producer, but should not be grazed until it forms a close turf. When it is desired to seed a hog-yard to blue grass, the seed may be scattered and shelled

corn sprinkled about the yards to encourage the pigs to root about and in this way cover the seeds. This is a somewhat slovenly way, but I have secured several fine stands in yards or pastures where it was difficult to get around with a plow and harrow. Blue grass affords good grazing when other crops are not available.

Cowpeas, soybeans and field-peas are all valuable forage crops for hogs, and may be grown to advantage on nearly every farm throughout the corn-belt states. Rape has proved to be one of the best crops of the non-legume order for hog pasture. Experiments with it have been of a surprising nature to men who have concluded that legumes were the only plants of value for hog pasture. When buying seed select only the Dwarf Essex variety, and sow it in drill or broadcast, so that it will be fit for grazing during the fall months when other forage is scarce.

We always make it a point to have some late fall or early winter pasture for our hogs. Wheat and rye make good winter grazing, and the saving in the amount of grain required is large. In many of the western and southern states the hogs are wintered largely on the wheat fields, and very little grain is fed until spring, when other forage crops are available. In this way it is profitable to carry over fall pigs and feed them for heavyweights the next fall and early winter.

Always plan to have one crop ready for feeding as soon as the other is consumed. The soil may be improved rapidly by growing a succession of forage crops, and feeding grain foods with them. On the ordinary hog farm a vast amount of fertility is wasted, but not so on the farms where the hogs are pastured and used to harvest their food crops. Properly managed the hog can be made a conserver rather than a destroyer of soil fertility.

Cows vary more in the amount of grain they will consume than in the amount of roughage. The idea is to get the cow to eat only what grain she can handle at a profit.

There are good cows in all breeds, and a vast number of excellent cows of mixed breeding. It is not necessary for the beginner to have pure-bred cows in his working dairy.

A large udder often deceives the most experienced buyers, and should be given close inspection, to see that all quarters are in working order.

Straw is not wasted when used to make beds for the cows. A lot of valuable manure can be saved by the liberal use of straw about the dairy barns.

More winter work by the cows will make the business more profitable. Why should a farmer close his shop just as soon as cold weather comes.

WOULD CUT EXPENSE

"Where do you stand on the question of prohibition?"

"I'm for it," said Uncle Bill Bottletop. "If a lot o' these people that's wastin' liquor on theirselves can be compelled to quit, mebbe it won't be so expensive."—Washington Star.

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

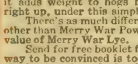
MERRY WAR LYE

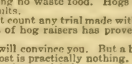
in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

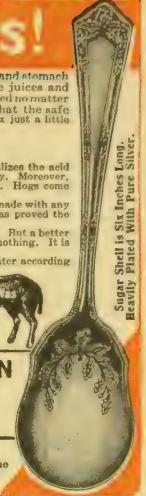
Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.





"There Are No Substitutes"



GENUINE GUARANTEED Wm ROGERS & SON **FREE** OAK DESIGN SUGAR SHELL

Send Only 3 "Merry War" Lye Trade-Marks

There are so many practical, every-day uses for Merry War Powdered Lye in the house and on the farm that we have made this remarkable gift offer to induce you to give it a common-sense trial. Don't send the entire labels—just cut out the trade marks—the large words "MERRY WAR" printed in red on the face of the label and send 3 trade-marks with coupon.

We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

For Sale Everywhere *None genuine without the words "MERRY WAR" and the picture of hog on the label.*

At grocers', drugrists', and feed dealers'—10c a can. If your dealer will not supply you, we will see that you are supplied at $1.20 per dozen cans, all charges prepaid, and if requested we will take off 3 trade-marks and send Sugar Shell as offered also full particulars for obtaining full set *free*.

E. Myers Lye Co., St. Louis, Mo.
Premium Department 114

E. Myers Lye Co., St. Louis, Mo.
Premium Department 114

Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

Name.....
Postoffice.....
R. F. D.....State.....
Write your own and dealer's name and address plainly.
Dealer's Name.....
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10 Days Free Trial *Charges Prepaid Send No Money*

TWICE THE LIGHT HALF THE OIL

NEW KEROSENE LIGHT
Beats Electric or Gasoline

We don't ask you to pay us *a cent* until you have used this wonderful modern light in your own home ten days—we even prepay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at 33 leading Universities and Government Bureau of Standards show it

Burns 50 Hours on One Gallon

common coal oil, and gives more than twice as much light as the best round wick open flame lamps. No odor, smoke or noise, simple, clean, no pressure, won't explode. Several million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed,

$1000 Will Be Given to the person who shows us an oil lamp equal to the new *Aladdin* (details of offer given in our circular.) Would we dare make such a challenge if there was the slightest doubt as to merits of the *Aladdin?* We want *one user in each locality* to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp *free* for showing it to a few neighbors and sending in their orders. Write quick for *10-Day Absolutely Free Trial.* Send coupon to nearest office.

MANTLE LAMP CO. 361 Aladdin Bldg.
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Awarded **GOLD MEDAL** *at World's Exposition* *San Francisco*

Men Make $50 to $100 A Week With Pigs or Poultry

delivering the ALADDIN on our easy trial plan. No previous experience necessary.

Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 lamps the first seven days." Another says: "I disposed of 37 lamps out of 31 calls." Thousands who are coining money endorse the Aladdin just as strongly.

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We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory. Sample sent for 10 days FREE TRIAL.

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Golden Opportunity is Knocking at Your Door To Day

$5,000.00

IN CASH

Divided Into 503 Rewards

$1,500—First Reward will be paid in cash.
$750—Second Reward will be paid in cash.
$500—Third Reward will be paid in cash.
$250—Fourth Reward will be paid in cash.
$125—Fifth Reward will be paid in cash.
$100—Sixth Reward will be paid in cash.
$75—Seventh Reward will be paid in cash.
$50—Eighth Reward will be paid in cash.
10 Rewards of $25 each in cash.
25 Rewards of $10 each in cash.
460 Rewards of $2.50 each in cash.

HOW TIES WILL BE SETTLED
In the event of an ultimate tie, each tying contestant will receive the full reward just as if there were no tie.

Here are two sample pictures. They are printed here to show you the kind of pictures you will be asked to find titles for.

The first picture shown above (to the left) undoubtedly represents the title "Old Oaken Bucket." That is a more fitting title than, for example "Dixie." Possibly there is some other title, however, that really is just as suitable as, or even more suitable than "Old Oaken Bucket." You will find the titles in the Official Catalog, containing about 4,000 names of songs and other musical compositions. By the aid of the Catalog you can, in connection with the 60 pictures in the Music-Titles-Picturegame, earn $1,500, or some other generous reward. See the excerpts from the Catalog printed as a sample on the next page.

The second picture shown above obviously represents the well-known song-title "Asleep in the Deep." Do you think it could represent any other title? Well, you are the one to find out. Surely it is worth while getting into practice, so that you may win a cash reward. All members of the family may join in the fascinating game.

You Start Today in
The FAMILY Magazine's Great

$5,000.00 Cash Music-Titles Picturegame

Now Offered to Readers of FARM NEWS

AMUSEMENT FOR THE WHOLE FAMILY

Every Member of the Family Can Enter This Pleasant, Profitable Game

EVERYONE HAS AN EQUAL OPPORTUNITY

FIVE THOUSAND DOLLARS IN CASH will positively be paid to the winners, and the full rewards will positively be distributed, actually as promised. This we guarantee.

MUSIC-TITLES-PICTUREGAME is a game for the home, for the evening and leisure hours. Anyone can play it. Everybody is invited to enter. There is no soliciting or canvassing in this game. It is really and truly a game—a great game.

WHAT WOULD YOU DO WITH $1,500.00 IN CASH? Would you buy yourself a home, an automobile, a farm, pay off your debts, put it in the bank, take a wonderful trip or buy a business of your own? Just think of the great big things you could do with $1,500.00 in cash. $1,500.00 in cash is the first reward in the Music-Titles-Picturegame; second reward is $750.00; third reward is $500.00 cash; anyone of them a small fortune in itself. YOU, WHOEVER YOU ARE, HAVE JUST AS GOOD AN OPPORTUNITY TO GET A BIG CASH REWARD AS ANYONE.

COMPLETE INFORMATION will be given you if you will fill out and send in the coupon on the other page; then you will be told all about the pictures and how to find the titles to them.

YOU CAN WIN

$1,500.00 IN CASH

Or $750.00 in Cash, or $500.00 in Cash, or $250.00 in Cash, or any of the other 500 Cash Rewards, the whole totaling **$5,000.00** *If You Will Take Advantage of*

The MUSIC-TITLES-PICTUREGAME

(Now Being Conducted by The FAMILY Magazine, but Every Reader of FARM NEWS can Participate)

All You Have to do is to Give Names for 60 Pictures

YOU SHOULD START RIGHT IN TODAY TO PLAY THE GREAT $5,000.00 Cash Music-Titles-Picture-game. Send in the coupon today and then you will receive full information about the game.

DON'T DELAY—PLAY THE GAME. The FAMILY Magazine is very proud of being able to offer this great game to the readers of FARM NEWS. It will provide pastime and pleasure for the long winter evenings for the whole family.

EASY AND INTERESTING is the Music-Titles-Picturegame. It is so simple that even a child can understand it. All you have to do is to find titles to pictures! Everything is done to help you. This game is open to men, women, boys and girls.

1. This represents the title of a song which is well known by everyone.

2. This represents the title of an old favorite song.

3. A famous Southern song.

4. A well known sentimental song.

Look Up in the Catalog What You See in the Pictures

Here are Some of the Titles You Will Find in the Catalog

Asleep in the Deep	Dixie	Hello People	Last Rose of Summer
Baby Mine	Dreaming	Home Sweet Home	Maiden's Prayer
Barn Dance	Evening Star	Hiawatha	Old Folks at Home
By the Sea	Face to Face	In the Gloaming	Old Oaken Bucket
Calvary	G. A. R. Patrol	Jack and Jill	Rock of Ages
Casey Jones	Garden of Roses	Kentucky Babe	Silver Threads Among the Gold
Chopsticks	Hearts and Flowers	Last Hope	Teasing
Comin' Thro' the Rye			

In above list find titles for the sample pictures above. This is good practice. Fill out the form below for full information about the Music-Titles-Picturegame; 503 persons will win; $1,500 is the first prize. You may win it. Write in to us today.

FULL INFORMATION will come to you if you will use the coupon at the bottom of this page. You will be told how to consult (or obtain for yourself) the necessary Catalog, as well as about the 60 pictures, the convenient way of writing down and sending in your answers, the complete Rules and **everything else you need to know.** Remember the $1,500 cash first prize. It is worth trying for. There is nothing to prevent your winning. Get on the right track by mailing in the **application form** below at once.

TO MAKE SUITABLE TITLES FOR PICTURES is very simple. To aid you, there will be a Catalog containing all the titles necessary for you to know. You just take the pictures and then go through the catalog and pick out titles which you think best fit the pictures. Send in the coupon today sure, and then you will have all the information about this game.

FILL OUT THIS BLANK

Fill Out, Cut Out and Mail Us This Coupon

FARM NEWS, Dept. 87, Date.....1915.
Springfield, Ohio.

Having read the advertisement of the $5,000 Cash **Music-Titles-Picturegame,** and wishing to have full information about it, I apply for complete particulars.

Name—(Mrs.)
(Miss) .....
(Mr.)

Full Postal Address.....

.....

(This information form may be cut out and mailed in or copied and sent with name and full address to FARM NEWS, Springfield, Ohio

The Family Music-Titles-Picturegame is different from other similar games—picture-solving competitions—of which you may know, and your having entered other contests in no way prevents your entering this Picture-game announced in FARM NEWS. Use this coupon.

NEW INVENTION

Wonderful Self-Heating Iron NOTHING ELSE LIKE IT.

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IT PAYS TO GRIND THE GRAIN

One farmer I know used to have a standard ration of eight ears of corn for each of his cows, no matter how much or how little milk the cows produced, nor whether it was rich milk or poor milk. They all received their eight ears twice each day. This was a poor way of feeding cows, but it was the best this particular farmer knew.

A few years later I visited this man's farm, and he had changed his method of feeding. Instead of feeding whole ear corn he was feeding soaked shelled corn. Every night so much corn was put to soak in a barrel of water, and the next day the cows were fed their ration from this corn. This probably was a step ahead of the old way of feeding, but still it could not be considered a very successful method. The water soon got sour, some corn was oversoaked, and some was undersoaked. In cold weather the water in the barrel would often freeze. This ice water made the corn very cold. As a whole it was not satisfactory.

This same farmer has now purchased a gasoline engine and a grinder, and every kernel of grain fed to his cows is ground. He learned that it did not pay to feed cows whole grain, and have it pass through the digestive tract of the cow without being assimilated. Formerly it was thought that even if the corn did pass through the cows in an undigestive form, most of the nutriments had been absorbed. Several experiment stations have now proven by chemical analysis that the corn and the grain that passes through the cow whole is practically as nutritious as is the grain before it passed.

Several experiments show that when cows are fed the grain whole, as much as 22 per cent of the grain passes through the cow in an unmasticated and undigested condition. This is a serious loss, especially when grain is high priced. Every dairyman should plan to have a feed grinder and gasoline engine.

Grinding the grain saves the energy and work of the cow. What is the use of feeding a cow a lot of grain, and then have her spend a large portion of it in grinding it herself? Take this load off of the cow, and let the cow reserve her energy for putting this feed into the milk pail. Grinding the grain saves the life of the cow. In nearly every instance it is the stomach and the teeth that give out first in a dairy cow. A good dairy cow we want to have just as long as possible, so save her teeth and her stomach.

The cow that will digest the greatest percentage of the food that she eats, and put it in the milk pail, is the best and most profitable cow. Unless the feed is put into a condition so that it can be digested, little can be expected from a cow in the way of changing feed into dairy products. A feed grinder and gasoline engine will pay for themselves in a short time, and the engine will be found indispensable in operating the cream-separator, churn, and other machines, as well as the feed grinder.

An Indiana herd of Guernseys. This type shares with the Jersey the characteristic of producing butter-fat economically on account of the richness of their milk

SIMPLE METHOD OF TESTING

Every dairyman should have a Babcock tester of his own, or at least himself and a neighbor or two own one between them. There are, however, many who haven't got a tester, nor have their cows been tested by some one else. By the following simple method they may test their cows so as to get a comparative idea of their value.

Get as many small-necked bottles as there are cows in the herd, and after milking each cow perfectly dry, weigh her milk to get the number of pounds. Then stir or pour it from one vessel to another until it is thoroughly mixed, and from the milk of each cow fill one of the bottles full, and set away in a cool place until the cream has risen. The amount showing in the neck of the bottles will show at once which cows give the richest milk. The bottles should all be of the same size and

make. Bottles in which catsup has been packed for sale in stores will make good test bottles for this purpose.

A label should be pasted on each bottle, on which is written the name or color of the cow from which the milk came. You know how many pounds each cow gives, and which one gives the richest milk. Keep the milk from the best cow and that from the poorest one, and take it to a creamery and have it tested, being sure to mix the milk well from each cow before taking the samples for testing. If a dairyman closer than the creamery has a tester, the samples can be taken to him. The Babcock tester will show exactly what each cow is doing, and from observing the difference in the various test bottles, a very close estimate can be made of what any cow in the herd is doing.

The man who takes the trouble to make a careful test of his cows, often meets with a surprise in finding that some of his cows are getting their board without having to pay anything for it. When this is found to be true, no time should be lost in getting rid of them, and putting better ones in their place.

FEEDING COTTON-SEED MEAL

While I am a strong advocate of feeding cotton-seed meal to dairy cows, I must confess my own experience will not let me feed over one and one-half pounds at each feed to the heaviest milkers. Others contend that they can feed more with safety, but such has not been my experience. I feed silage and some alfalfa hay, and at each meal I sprinkle about one pound of cotton-seed meal over the silage.

I find that if I am without the meal for a few days there is a great falling off in the milk flow. Every time I have tried to increase beyond the pound or pound and a half, in two or three days the cow refuses her feed. Then I take it all away, and give only the silage and some alfalfa hay, and when the cow resumes her feed, I again put in the cotton-seed meal.

Of course, feeding alfalfa hay and silage at the time may account for this, as the alfalfa contains so much protein, and is perhaps all the cows can digest. If I continue the feeding of the cotton-seed meal after the cow has protested in the only way she has of telling me her food does not agree with her, I find the milk will begin to be slippery, and then I am well aware that she is getting a case of indigestion not easily cured.

I had one large milker that I gave one and a half pounds of cotton-seed meal at each feeding, and she would have dizzy spells, as a person will do when overfed. As soon as I began to cut it out she began to recover, but as soon as I resumed it at all she would have the dizzy spells. I sold her to a man who feeds dry rations, and she has never had an attack

My experience would warrant watching cows we are forcing into doing their best, or we are apt to come up against some queer problems. They can no more stand up under heavy feeding for a long period than we can. If it were not for that time of short rations that each cow gets after she is through with her milking period, I am fully convinced that they would give out sooner than they do.

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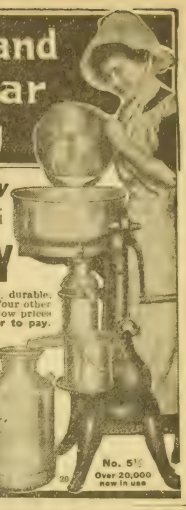

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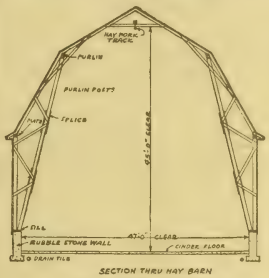

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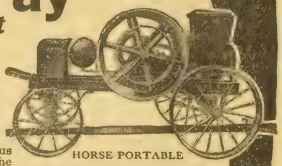

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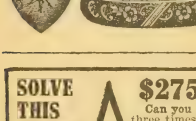

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FARM LIFE, Dept. D 22 Spencer, Indiana

THE SOW AT FARROWING TIME

By H. A. Bereman

The custom of letting the brood sow take care of herself is responsible for a wide-spread loss of pigs at farrowing time. In a state of nature the sow does take care of herself. In the wild, amidst the life-giving forests, with pure air to breathe, clean water to drink, lean and rugged from exercise and a diet of acorns and insects—the expectant mother made her nest in a bed of clean, dry leaves, and needed help from no one. As a result of this natural, sanitary life, her offspring never died in bed.

But along comes man with his boasted civilization, and disturbs the balance of nature. His plan is to breed pigs for personal profit, whereas nature raised hogs purely to perpetuate the species. He keeps his brood sow in a little pen without exercise; he fattens her with rich feeds; he forces her to sleep in filth and to eat from a germ-laden trough; he shuts out the light and air and the purifying sunshine—and he kills off his investment with neglect—which is both foolish and wasteful.

The stockman who works with nature, and who imitates natural surroundings succeeds even while forcing radical changes in the life habits of a creature that for generations has bred in the open. To prosper in economic pork production, intelligent supervision under artificial conditions must replace the old nurse—Dame Nature. It is not a matter of sentiment, but one of hard dollars to help piggy when her day of reproduction arrives.

Pinning blue ribbons on fat breeding stock has fostered a wrong notion—if not indeed, a mistaken ideal. Most stockmen know this, but the custom has spread abroad the feeling that a thin hog is a disgrace to its owner. The result is that many sows are too fat to breed well. "In good condition but not over-fat," is a safe rule.

The brood sow should have a constant supply of pure drinking water—not given to her occasionally. When she wants a drink she needs it right then and there.

She should have clean quarters at all times, and for a few days prior to farrowing she should be separated from the rest of the herd. When her time approaches she should be watched closely, and an attendant should help things along if necessary. In many cases he will not be needed, but supervision may save the litter and a valuable dam. It doesn't pay to "guess she'll come along all right." It is better to know when a surgical crisis arrives, and help the young into the world with the forceps or the pig-hook.

The pig-hook is made of a piece of fence-wire sharpened at one end, three quarters of an inch of which is bent at right angles. The blunt end is formed into a ring for a handle. It should then be about a foot long. By inserting the hook into the jaw or eye-socket of the pig that is having a stormy passage, the breeder can carefully extract it alive and unharmed. The herdsman must exercise patience, pulling slowly, and gently but firmly, when the sow's pains come on.

The farrowing pen should be warm, dry and light, with plenty of sunshine. It should have a rail or fender around the inside, eight inches high and six

inches from the wall to keep the sow from lying on her pigs.

The dam should have no feed for twenty-four hours after farrowing, and then but a little thin slop. She should be gradually brought up to full feed in ten days, and then fed liberally on protein or milk-making diet.

Until the pigs are several days old do not provide too much bedding. Very young pigs sometimes get tangled in long straw, and die before they can get loose.

Feed a sow with cannibalistic tendencies small strips of salt pork until she will eat no more. Remove dead pigs promptly, and do not let her get at them. In cold weather see that the new-born pigs suckle at once, and cover them with a blanket until dry.

A substantial hog-house, convenient and sanitary, soon pays for its cost compared with the current record of raising half the pigs that are born under haphazard methods.

THE TEETH OF CATTLE

Of general principles the teeth of young cattle always should be examined when an animal fails to thrive. I used to know an old gentleman who made the rounds of the community once a year, and examined the mouths of all young cattle. His job was to remove milk-tooth crowns, which often lodge on top of incoming permanent molars, and make chewing of feed painful and imperfect. He received 25 cents each for all animals thus treated.

This may be novel reading to some subscribers of Farm News, but it is well worth remembering and acting upon. The teeth of all adult cattle are loose. They have to be loose,—shovel-shape, and set in at an angle, else they would lacerate the cartilaginous pad, which takes the place of upper incisor teeth in cattle.

Once a farmer told me that he had suddenly discovered that the teeth of his sick cow were loose, and he suspected mercurial poisoning. This looseness also has given rise in part to the false accusation that silage loosens the teeth, and causes them to drop out. Such is not the case. This is proved by the success of thousands of dairymen in the feeding of corn silage. In fact the silo is now a necessity on every dairy farm.

Incisor teeth of full-grown cattle have narrow or small necks and wide, flat crowns. They gradually wear down as the animal ages, and when a cow is well past twelve years of age, examination will show that she is chewing with the small collar-stud-like necks of her teeth. Jaws with such vestiges of incisor teeth may be found at almost any slaughter house where old canner cows are made into the "sinews of war."

Such cows, no longer fit for dairying, or having gone wrong in their udder, commonly are sold to the butcher or fattened for sale. It is not the condition of the incisor teeth, however, that makes them fail to chew well. The molar, or grinding, teeth are irregular and sharp, and need attention. Sharp points should be cut off and filed down, then the old cow may take a new lease of life.—U.

Always save the best pigs from the largest litters for brood sows.

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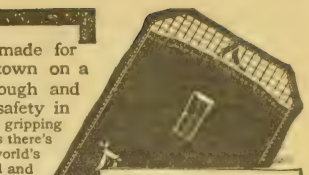

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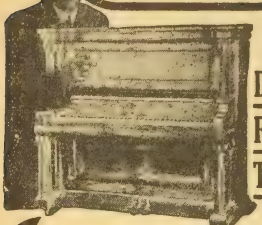

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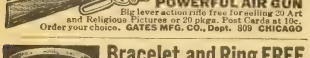

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THE AUTO-MAN, 254 New Ideas Building., Phila., Pa.

The HOUSEWIFE

HARDY PERENNIALS

Cover hardy perennials, such as peonies, larkspur, hollyhocks, columbines, iris, platycodons, and perennial poppies, with a good coating of manure or other litter to a depth of 3 or 4 inches. In more southern localities this will hold the frost in the ground and keep the plant from alternately freezing and thawing; in more northern regions the manure will protect the plant from freezing to a depth that will cut off its water supply.

CANNAS AND DAHLIAS

As soon as the tops of cannas, dahlias, gladiolus, caladiums and similar plants are killed by frost, dig up the roots or bulbs and store them in a cellar where the temperature will remain at 55 degrees, and should never go below 50 or above 60 degrees. Do not shake any more earth from the clumps of cannas and dahlias than is necessary in removing them from the ground. Place the plants on racks or in slat boxes so the air may circulate freely through them. No frost must reach the roots nor must they become too warm or dry.

Lilacs, snowballs, and mock orange should be let alone during the winter, being neither trimmed nor covered with straw and manure.

CLIMBING ROSES

In the latitude of Philadelphia and farther south climbing roses usually need no protection during the winter unless they are a particularly tender variety. Farther north these roses need protection similar to that given to the tea and hybrid tea roses.

Where it is possible to do so, remove climbing roses from their supports, and cover the branches with a little dirt. A little fall trimming might be desirable to lessen the space occupied by the branches on the ground. Such side branches as are not to be needed for next season's blooming may be cut off. Such cutting off and shortening of the ends as would otherwise be done in the spring, may be done in the fall before covering, merely for convenience.

ROSES

Almost all kinds of roses are hardy in the latitudes of Washington, D. C., and St. Louis, and to the south of a line drawn between these points. From Washington northward local conditions influence the successful cultivation of certain varieties. Some roses, as the briar and rugosa, need no protection, but other varieties, such as the hybrid-perpetuals, teas, and hybrid-teas, need special care, particularly north of the fortieth parallel. Teas and hybrid teas hardly succeed in Chicago, although the hybrid-perpetuals grow as far north as Canada. All these classes do well on Long Island and in Boston near the sea when proper care is given them. These varieties in the vicinity of Washington need merely a little manure on the ground to prevent alternate freezing and thawing. Farther north, however, they should be treated as follows:

Cut the tops to within 30 inches of the ground. Cover the roots with coarse manure or leaves or similar litter. Hold this in place by evergreen boughs which also acts as a protection. Brush from deciduous trees or shrubs may be substituted for the evergreen boughs except in the most northern regions.

Mounds of earth about six or eight inches in height should be drawn about the base of the rose bushes to keep them from mice. As an added protection against mice, permit the ground to freeze slightly before winter protection is supplied. In fact, roses should not be protected until after the first light freeze, which may be expected in Washington, D. C., about the first of December, but earlier farther north.

SELF EDUCATION

In the farm home where books and periodicals abound, you will usually find a happy and prosperous family. They are happy because they are prosperous; they are prosperous because they are students of agriculture. As a student of agriculture, each member of that household is an enthusiastic and efficient worker.

In this world we get what we most wish for, if we wish hard enough. The trouble with some folks is that their wishbone is where their backbone ought to be.

A busy person can learn scientific farming from books if he will read with intelligence. Emerson said that a man can get a liberal education by reading fifteen minutes every day.

Scientific farming is not theoretical or "fancy" farming—it is only farming according to classified common-sense, by facts. The modern farmer has to know a whole lot before he becomes adept. He couldn't learn it all if he lived a thousand years. If he has gumption he learns by other men's experience, by their mistakes and their discoveries. Reading thus, his mind is filled with exact and trustworthy knowledge of soils, crops, livestock, farm management, marketing, accounts and the higher significances of rural life.

It is childish to scorn "book farming," for books are merely the record of human experiences. The important thing to remember in reading is DISCRIMINATION—to select the best food for the mind; quality before quantity.

To get the reading habit—which is the road to self education—one needs only to persist with regularity, remembering that the intermittent arrives nowhere.

After some twenty years' experience as a practical farmer, and a reader of agricultural literature, I believe that

the farmer's best guide is his farm paper—the one that cements itself to his affections and wins his respect and confidence by proved worth. Among the many questions the farm paper can answer is "What are the best books for a working farmer to read?"

If you can't go to college do not despair; the college will come to you without appreciable expense. Nothing is so cheap as the printed page.

I once knew a great lawyer who pointed to a long array of sheep-bound books and said: "These are my tools." You don't have to tell the son of the soil that his tools are the pitchfork, the plow and the threshing-machine. But quite as certainly are books his tools, for they tell him how best to use his implements of wood and steel, and those other splendid tools, his brain and his muscles.

There are farm houses in this broad land where you can find furnaces, pianos, running water, telephones and card-index systems. You will also find screened-in porches for summer evening comfort. You will discover in such places automobiles for annihilating distances; mechanical helps of all sorts to save human energy. In such places there is an atmosphere of animation and evidence of Success with a capital S. In ninety-nine out of a hundred such country homes, you will also find book shelves with books on them, and somewhere a table decorated with reading matter.

The man who complains that he never had a chance to get an education is probably a plain mutt. Chances are as plentiful as weeds.

Opportunity doesn't "knock once at every man's door"; she reaches out and grabs people by the scruff of the neck. Folks waterlogged with conservatism just shake her off and go to sleep again.

THE PLAY OF THE FARM WIFE

In the last twenty or thirty years, the development of the farm has changed so that high-priced machinery is a necessity in making the farming operations a success.

Not so have the internal home conditions changed. The same house, the same inconveniences that were in use fifty or more years ago, are, in many cases, in use today, and because they were good enough for mother or grandmother, they are "good enough for my wife" today. How little does the average farmer realize that the ultimate success of his farm depends upon his wife, upon the conveniences she has which will lessen her work, and give her more time to make the home attractive, and keep the children contented and happy on the farm. A wife is a necessity on a farm, but unless she is spared much of the hard drudgery and unnecessary labor, she will soon give out.

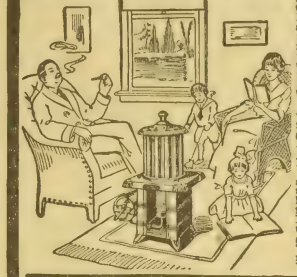
Dr. Curtis says in speaking of the farm wife: "The work she does today she will do tomorrow, and so on to the end. There is no direct reward for her work. If the work is uninteresting the hours must be proportionately short, for the life of the spirit, the only life that is worth living, must come outside the work."

See our liberal Cash-Prize Offers on Page 3.

SOLVES THE HEATING QUESTION

REMARKABLE PORTABLE HEATING STOVE!

A grand invention for heating Houses, Stores, Offices, Rooms, Etc. Intense Heat under Control. Perfect Combustion. **No Valves--No Wicks.** Nothing to clog, close up or get out of order. **No Flues, Chimneys.** Light, Portable. Pick it up--set it anywhere. Self-regulating, same heat all day or night. For more, or less heat, simply turn knob--THATS ALL. **AIR-GAS BURNER.** Automatically generates Gas from Kerosene Oil (Coal Oil) mixing it with Air. Scientific Test proves that it **BURNS BARRELS OF AIR TO ONE GALLON of OIL.** Convenient, Practical. By removing Tubular Radiator it is instantly converted into a Cooking Stove. Will BOIL, BAKE, FRY, ROAST, Cook Anything. Ideal for quick meals, washing, hot water, canning fruit. How convenient when you need a quick fire. In a cold kitchen, cold dining room, cold, cheerless bed-room or to make a cold parlor bright and warm for visitors--the **PORTABLE HEATER** is always handy, always ready. Makes **Homes Comfortable and Cheerful.** To warm Baby's Food, Night or Day. A pan of biscuits in a hurry, an Early Breakfast, a late supper, in the Nursery, Invalid's Room, cooking, quick ironing of a dress or skirt, hot water day or night, cold mornings, cold rooms, cold nights. Do you wonder why there are **Thousands Sent to Families** in all parts of the world and men and women are enthusiastic over its comfort and convenience.



What Users Say: Wm. Baering, Ind. "Heated a Room when the temperature was 10 degrees below zero." B. J. Austin, Illinois. "5 minutes after it was lit, temperature registered 70 degrees." W. S. Stafford, "Heats Room without trouble. Easy to operate, no smoke, no dirt." Emma Haines, "Mercury below zero, lit heater, Room was soon warm. It is also fine to cook and bake." Rev. William Tern, "This morning temperature was 16 degrees below zero and after lighting the Portable, temperature soon rose to summer heat, and I am as comfortable as if I had a large, expensive coal stove." Wm. King, "I have a room full of Cactus and Begonias and by using your Heater I kept (16x18) room at 70 degrees when outdoors registered 13-20 degrees." F. N. Helwig, Ont. "Only used half gallon oil last week cooking, baking, and ironing. Mrs. Thompson, Ohio, "Bakes Cakes, Pies, Bread. Never saw nicer baking. Mrs. M. E. King, Ky. "Baked, Cooked, Washed, Ironed. **Can do ANYTHING my range does.**

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7476—Ladies' Shirt-Waist—Sizes 34 to 46 inches bust measure. Waist is plain with a yoke at each shoulder. Long or short sleeves and high or low neck may be used.

7463—Girls' Dress—Sizes 6 to 12 years. The blouse slips on over the head and the kilt plaited skirt is attached to an underwaist.

7461—Ladies' Dress—Sizes 34 to 42 inches bust measure. This dress has a small straight vest in front. The sides and back are plain, but there is a bib above the belt which may be used or omitted. The skirt is cut in one piece and may be either plaited or gathered.

7475—Boys' Dress—Sizes 1, 2 and 3 years. Closes at the front and has long sleeves. Linen, pique or serge can be used for the dress with the trimming of plain or contrasting goods.

7478—Ladies' Dressing Sacque—Sizes 36, 40 and 44 inches bust measure. Body and sleeve sections are in one and the sleeves may be long or short.

7444—Ladies' Dress—Sizes 34 to 42 inches bust measure. Dress closes at the front. The skirt is plain and is cut in four gores with high or regulation waistline.

7477—Ladies' Skirt—Sizes 22 to 34 inches waist measure. Skirt is cut in four gores and can be made with or without the separate belt.

7452—Child's Night-Drawers—Sizes 2 to 12 years. May be made with or without the feet and with plain or bishop sleeves.

7484—Ladies' Skirt—Sizes 22 to 32 inches waist measure. Skirt has three gores and in addition two inserted gussets at the sides. The lower edge measures 2¾ yards in the medium size.

7462—Ladies' Apron—Sizes 36, 40 and 44 inches bust measure. This apron covers the entire dress. Has a patch pocket on the right side of the front, and fastens with string ties in the back.

Price of Any of the Above Patterns 10 Cents Each

A DAIRYMAN'S LUCK

By E. L. Vincent

A short time ago while on a trip by automobile through the country I visited a fine herd of Ayrshire cattle in the western part of the state of New York. They were fine cattle, and the owner was naturally proud of them. But the thing about it which most interested me was what he said about his fight to get up to his present desirable place as a breeder and dealer of fine stock.

"I have been at this for more than forty years," he told me, "and now I am beginning to get some returns for my work."

Forty years breeding one of the finest types of cattle in this or any other country, and only just now getting his head above water! Think of that for perseverance and dogged stick-to-itiveness! In that time hundreds of men have been doing the same kind of work with this or some other breed of cattle, and have gone down to forgetfulness, because they did not have the persistence to hold on a little longer.

"Why, it is only just lately that my own son thought it a good thing to take up this kind of stock."

But now, this young man, who lives on a farm adjoining his father, is a most enthusiastic advocate of his father's choice of stock. When we were there he had just returned from delivering a bunch of his surplus stock to Canadian farmers. These sold well, and he must have brought back quite a bundle of money.

Two or three other things, besides having a fine breed of stock, help to win. One of these is a love for the business. If a man's heart is not in it, he never will stand by the guns very long. He may go into a thing with a most enthusiastic spirit, and for a little while create quite a bit of a sensation among his neighbors; but if he does not have the determination, the real love of the work in his heart, it will not be long before his place will be empty, and somebody else be doing business at his stand. The first thing a man ought to ask himself before he takes up this work should be, "Am I sure that I will like it well enough to work on, if need be, for forty years before I come through to daylight?"

And then, it is not all in having choice stock. A man may have the finest thoroughbred cattle in the world, but if he does not let folks know it, he will not get to the front very fast. The world must know what he has and come to see; then he will be on the road to success. One great reason why so many men never see the success for which they dream and work is because they do not tell people about it. Nothing is more sure than that, in some way or other, we must advertise.

But after you begin to advertise, one needs to have the goods. One man I know of thought he could make a great spurt and clear off the mortgage on his place by selling full-blooded stock. He did some advertising, but he did not have the cattle people wanted. Very few of the individual members of the herd were of an appearance that would enable them to command the price the owner had set upon them. Many of them had some little blemish about them which spoiled their sale at top prices.

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We offer you a chance to share in our profits by giving to every customer a certificate that entitles him to dividends earned. **This certificate costs you nothing** —it is given to you **absolutely FREE**—you don't pay a penny for it, now or at any time. **It's FREE.** All you have to do is to write for our **Big Unabridged Bargain Catalog,** and ask for the **Profit-sharing Certificate** which should earn you 3% to 10%.

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Quality for quality, value for value, our merchandise will stand the acid test of comparison with that offered you anywhere else, and our prices are in most cases considerably lower.

Why keep on contributing to the **melon-splitting** of the big mail order houses — the division of enormous profits that you have helped to pile up but in which you have no share—when you can practically **buy from yourself** and turn the profits into your own pockets?

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Satin Lined Single breasted coat has large lapels, velvet collar, set-in sleeves, satin covered shields—patch and breast pockets. Box plaited skirt, raised waist, habit back. Sizes 34 to 44 bust, 22 to 30 waist, 36 to 44 front length. State size and color—navy, black, Copenhagen. No. 1A2647. Price prepaid.

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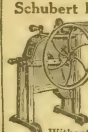

Round ends, wide bearings, heavy bolted hardwood frame. Ample feed table. Cold rolled steel shaft, balance wheel large and heavy. Adjustable. Capacity 10 to 20 bu. per hour.

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Our Trappers' Department

NOTICE TO READERS

Mr. George J. Thiessen, the author of the series of trapping articles which will appear in this magazine, will answer all questions pertaining to traps and trapping through the columns of this magazine, or personally, if ten cents is sent to cover stenographer fees, stationery, stamps, etc. Mr. Thiessen is an authority upon the subjects he writes about, being the author of nearly a dozen books on trapping. He was special writer for the "Fur News" magazine of New York City, formerly editor of one of the largest trapping magazines in America, and also at one time the head of the trapping department of "Rod & Gun." His experience on the trap line, buying and selling furs, in charge of the consignments for a fur house known to every trapper in America—in fact his familiarity with every phase of the fur business will prove a great help to the readers of this magazine.

RULES—In order for every reader to get the most good from this feature, it will be necessary for each one to carefully observe the following: (1) Not more than five questions will be answered for any one reader each issue. (2) Be brief and clear with questions. **(3) Write plainly, giving full name and address. (4) Address all letters to** Editor of Trapping, Farm News, Springfield, Ohio. (5) Questions to be answered by **mail should be marked "Personal," with 10 cents enclosed.**

TRAPPING THE SKUNK AND CIVET CAT

By George J. Thiessen.

The skunk and civet cat are two of the smaller fur-bearing animals which prime first, and for that reason they are of greatest importance to the novice who essays to trap. Some, perhaps, do not care to begin their experience with these two animals, for the odor they exude is something not very desirable to get on the hands and clothes. However, with proper care, the skunk and civet cat give no more trouble than any other animal, and in most cases can be handled without any odor at all.

No animals are easier taken in steel traps than the two mentioned in this article. They seem to have no fear of man nor the nearness of human habitation. Often, indeed, have I seen dens of them around straw stacks, in barns, and even in the cellars of houses. While most wild game retreats before the advance guard of civilization, the skunk and civet cat adapt themselves to the change and thrive, usually, much the same as they did when there were no human habitations within miles.

Generally speaking, outside of the places I have named, the skunk and civet, whose habits are much alike, in many respects, prefer to make their homes in hilly country, especially if overgrown with brush and weeds. The skunk likes an old hedge for its den, and if this is not to be had, will select almost any place where a burrow can be made. As a rule, several skunk dens will be close together, each of which will contain several animals. I have known of cases where more than a dozen were taken from a single hole.

The civet cat can be found around old stone piles, hedge fences, around old sheds or barns, in dried up creek bottoms, old tiles—in fact almost any place where there is shelter and food. Usually, more than one can be taken from a den, especially if it happens to be an abandoned and dried tile. Sixteen of the little animals were taken by me from a drain on my trap line in Iowa several years ago.

As I said before, the skunk and civet can be taken in almost any kind of a set. The simplest method is that of placing one or more steel traps at the entrances of dens. Use no bait of any kind.

Before going further, I wish to digress for a few moments, and give some instructions as to concealing a trap properly—even though unnecessary in the case of the skunk and civet. Aside from the practice it gives the beginner, often indeed does a wandering mink or some other fur bearer get into a set which is concealed properly, which never would have been taken had the trap been bare.

First, excavate a shallow place for the trap, scooping out enough dirt so that the pan of the trap is slightly below the surface of the path used by the animals. Over the trap place some material natural to the place; that is if the den has near it brown grass, use brown grass as a covering for the set. When a covering is made, it should be thick enough to conceal the trap, yet light enough so as to allow the set to be sprung. In the case of grass, it is usually well to cut or tear it up fine, so the spring will throw it from between the jaws. I will say also that I advise trappers to place something under the pan of the trap, when fine covering, such as feathers, dust, rotten wood, etc., is employed. A wad of cotton, wool or corn silk serves admirably in most cases, and insures the pelt hunter that nothing will get under the pan and prevent it releasing the spring should the animal get into the set.

Fresh meat, especially if a good patent lure is used, will draw both the skunk and civet cat for long distances. Since this is true, the trapper has but to build V-shaped or three-sided pens in the vicinity of the burrows, baiting them with fresh and bloody meat. Place the decoy in the back part of the pens, and guard it with one or more traps. It is a good idea to cover such sets as this lightly with brush or grass, so that the meat will be secure from the sharp eyes of hawks and crows.

Some of my readers may have difficulty in telling a skunk den from that of a ground hog or abandoned burrow. This may be done by getting a handful of dirt from the hole and examining it carefully. If the burrow is occupied by

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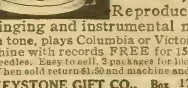

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skunks, long white-and-black, or black hairs will usually be found. The general appearance of a burrow will tell even the novice whether it is used for a home or not, and in many cases the tracks or droppings of the animals will be in evidence.

Similar sets may be made by digging shallow pockets in the sides of banks, and placing a bait in the back part. If possible, use a good scent, and make trails to the various traps which guard the meat decoys. Several of these decoys will often catch a half dozen animals in a single night, when placed near a colony.

Warm moonlight nights, especially if slightly damp, will prove best for taking either the skunk or the civet cat. These animals, when the cold weather comes, den up to a certain extent, and at this time are hard to trap.

Go along an old hedge where there are signs of the animals and hang on branches small pieces of meat about eighteen inches from the ground. Under these place traps in such a manner that nothing can get the baits without springing the traps. Sets like this never fail to give good results, and are favorites of many professionals.

For this reason, it is possible to make as much in the South as it is in the North. Your own state furnishes a good field for trapping also, and the furs are of good quality, commanding high prices.

Q. Name the large fur centers of the United States.—S. M. D., Michigan.

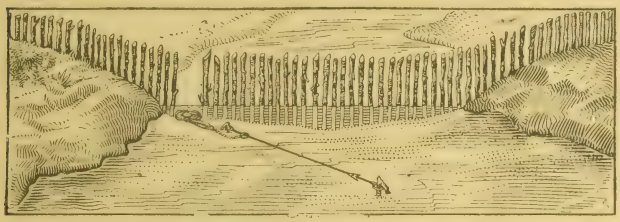
A. New York City, St. Louis, Detroit, Chicago, Minneapolis, Milwaukee, St. Paul, etc., etc.

Q. How can traps be cleaned, that is the smell of steel removed?—R. R. B., Ohio.

A. Smoke the traps well over a fire made from green boughs. Feathers also are good.

Q. Would snares be better than steel traps?—N. E. S., Minnesota.

A. Snares—and also deadfalls—are not to be recommended for taking the smaller fur bearers. At the present time, the snare is employed by Lynx trappers, to a certain extent, and the deadfall by those trapping for bear and other large animals. Only in the hands of professionals are they to be depended upon, and even then traps will answer as well in most cases.



This is a good way to blockade a small stream so as to direct animals into the trap

When animals are found alive in traps, they should be approached in such a manner so as not to excite them. A small bore rifle is best for killing them, although a revolver or pistol is good also. Aim so that the bullet strikes the back bone, just at the base of the skull, for this paralyzes the animal so that it is powerless to eject its evil smelling fluid. Care should be taken also to have the bullet leave the animal in the throat or head, for in this way very little, if anything, is lost when the hide is sold. On the other hand, should the hide be punctured in the belly or elsewhere the fur buyer will undoubtedly subtract something for the damage to the skin.

There are many methods used by trappers for killing both the skunk and civet cat, ranging from drowning and stabbing to the use of chemicals. I have found none of them so simple and satisfactory as the one I have described.

Should an accident happen, and the scent get on a trapper's clothes or hands, it can be removed by using gasoline. Pelts, too, that have been "stunk up" may be treated to a liberal quantity of gasoline, which will remove the odor.

AROUND THE CAMP FIRE

(By George J. Thiessen)

Q. My partner and I are thinking of trapping this coming season. Where is the best place in the United States to go?—R. D. F., Illinois.

A. This is one of the hard questions to answer. There are many "best places in the United States." For instance, on the whole Wisconsin furnishes the best grade of furs probably, with several other states closely following. In the South, the animals are more plentiful and much easier to take.

Q. Is skunk oil saleable and where can I sell it?—E. R. E., Wisconsin.

A. Skunk oil is saleable but only in limited quanitities, so to speak. At the prescent time I do not know of a fur firm that will handle it or sell it for you. Perhaps some of the large drug concerns could use some Skunk Oil. Better yet, go to your local druggist and ask him if he will buy or dispose of what you have.

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SOIL FOR GREENHOUSE AND HOTBED

One of the fall duties of the gardener is to provide for a supply of soil to be used in the hotbeds in late winter, or for the greenhouse benches, if one is used. Even if one does no more then start a few plants for the home garden, and does this in the kitchen window, soil is needed for the purpose. It is rather awkward to find that nothing has been provided when the time for sowing the seed comes around.

For the small gardener, sufficient potting and seedling-growing material can be put away in a corner of the cellar, or any other place where it will not freeze. We have piled it in a shed, and again in the barn cellar, covering it with straw to keep out the frost.

Good soil for ordinary purposes can be made by mixing equal parts of heavy garden soil, sand and rotted barnyard manure. All these ingredients are available in most country communities. Clean river sand is better than ordinary fine gravel. Sand from roadsides will also answer the purpose. Excellent material to take the place of manure and garden soil can be obtained from an old hotbed, or, if weeds that are pulled from the garden are thrown together in a heap and allowed to rot, a valuable compost results. This, of course, takes several months to decompose and become fit for use. Muck that has been dried out by exposure to the sun is also valuable. The acid qualities of such soils is changed by this exposure.

Perhaps nothing is better than earth from deep woods. We prepare such soil by forcing it through a coarse screen. This pulverizes all half-rotted leaves, reduces the fibrous roots, and makes a potting soil that cannot be surpassed. Less sand is required if vegetable mold of this sort is used.

START THE CHILD IN BUSINESS

There is nothing new in the suggestion of letting the junior members of the family have some means of income for which they are responsible and from which they receive the profits. We are all acquainted with the argument that what one earns he appreciates most, and will invest the same more carefully than funds that have cost no individual effort. So the question of fitness is easily disposed of. But making the suggestion and working it out theoretically are vastly easier than putting it into practice.

However, from time to time we hear of some child who has solved the matter of spending money for him or herself. Such a one is a little miss of about twelve years, who was recently brought to our notice.

Her stocks and bonds are guinea pigs. They are easy to raise, cost little to keep and she sells them at 50 cents each, or in one instance traded a pair for a pair of white rabbits to enlarge her resources.

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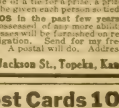

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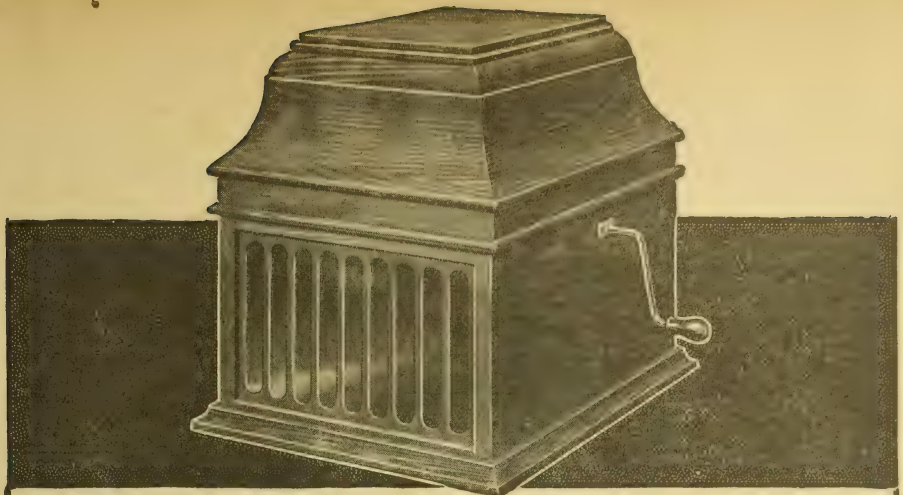

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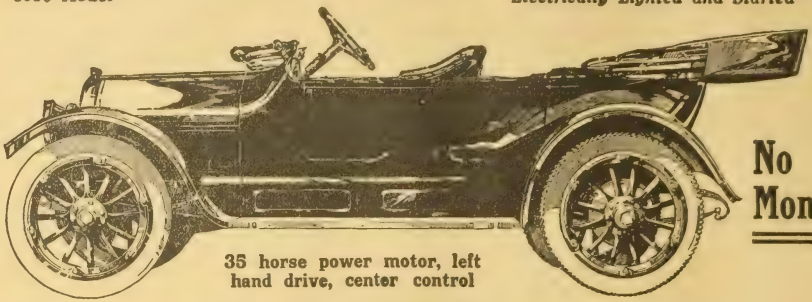

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All we ask is a little of your spare time. We are going to pay every person for everything they may do for us, no matter whether they get this automobile or not. Someone is going to get it, and it might just as well be you as anyone else. You can have it if you make up your mind that you are going to get it, and this is not idle talk. It is an absolute and positive fact.

The work required to secure this automobile will represent only a very small fractional part of the value of the automobile. Below you will find a coupon all ready for you to write in your name and mail to us.

Remember, sending this coupon obligates you for nothing. We will send you our offer and if it does not look good to you, that is all there will be to it. The coupon brings you the desired information, so don't fail to send it today. Don't miss the opportunity.

How the Automobile Will be Given Away

We are going to give this automobile, along with hundreds of other valuable prizes, absolutely free, in a new voting contest, particulars of which will be sent you upon receipt of your name and address.

Anyone can enter this contest, old or young, rich or poor. It makes no difference where you live. You stand just as good a chance living in California as you do living in Ohio.

Our plans for conducting the contest are guaranteed to be absolutely fair and square to all. No one connected with our concern, or living in Springfield, Ohio, or Clarke County, Ohio, in which Springfield is located, will be permitted to enter this contest.

We make this rule in order to protect those who live at a distance and to prove to you that our contest will be equally fair and open to all. No one who enters this contest can lose a penny. We have a prize for every one who takes part, and a handsome and valuable one at that. These prizes are all given in addition to the big, grand, free automobile, which is the first prize.

We, therefore, ask you to send us your name and address promptly, so that we may give you the information which you desire. The whole plan is very simple and easy. There are no catches or strings to it. It is very plain and even a child can understand. *Send the coupon.*

Send This Today

FARM NEWS, Dept. 41, Springfield, Ohio

Please send me particulars about your great free Automobile offer by return mail.

Name _____

Town _____

State _____ *Route No.* _____ *Box No.* _____

Hundreds of Prizes for Everybody

Remember, there is a prize for each and every one who enters this contest. These prizes will not cost you a cent of money.

The little favor that we ask you to do can be done in your spare time and is so plain and easy that anyone can perform it.

Here's the chance of a lifetime to get a genuine, new Overland automobile without it costing you a penny. An opportunity like this may never come to you again.

We are an old, reliable concern, financially responsible, and can give you the best of bank references, if you so desire, so please do not hesitate, but send us the coupon and see what we have to offer you. Do it today while you think of it. Address

FARM NEWS, Dept. 41, Springfield, Ohio

FOOT-AND-MOUTH DISEASE

(Continued from Page 3)

The United States has had six epidemics, all of which were quickly stamped out by immediate slaughter and burial of all infected and exposed animals, and cleaning and disinfecting the premises. This country is the only nation that has adopted the slaughter method from the start, and the only one that has ever succeeded in completely stamping out the disease.

The expense of maintaining an efficient quarantine, not to mention the cost of the disease and expense of building up the surviving animals, will be infinitely more than the animals will ever bring. On the other hand, if the infected and exposed animals are appraised and killed by the authorities, the owner recovers their value as sound animals, together with all the expenses of their burial and disinfection of his premises, and for all loss of sheds, hay or other property destroyed on account of the disease.

The situation is serious, and demands prompt and rigid measures for speedy control. Every day costs the livestock industry in this country thousands of dollars in disturbed market conditions, loss of confidence on the part of the consuming public, and a decreased demand for meat products. Could anything be plainer than the simple duty of any owner of an infected herd? Let the law take its course. The outcome will be so immeasurably better than any attempt at evasion, either through concealment or other measures.

POULTRY FOR PROFIT

(Continued from Page 8)

in closed houses. The tight house is always damp, and dampness is fatal.

At the first indication of colds in my flock, as shown by coughing, sneezing and discharges from nostrils, I put permanganate of potash in the drinking water. Sufficient of the permanganate is used to give the water a deep wine shade. I also add a little ground mustard to the wet mash. A tablespoonful to each forty or fifty birds is about the right quantity. I keep up this treatment for a week.

If well-developed cases of roup appear in the flock, the sick birds are removed to separate quarters, and the house and run where they were kept given a thorough disinfecting. A person who has had experience with roup cannot be mistaken in the disease. A sure symptom is the very disagreeable odor of the discharge from nostrils and mouths of sick birds. This odor is so pronounced that one can tell immediately on entering a house if any cases of roup are present.

I believe in the fresh-air treatment for roup. I keep the sick birds in open houses. The treatment consists in keeping permanganate of potash in the drinking water and adding to the mash one teaspoonful of mustard to each ten hens. Twice a day, the sick birds are caught, all the hard, cheesy matter removed from the nostrils with a toothpick, and the head of the bird soused in lukewarm water in which permanganate of potash has been dissolved. The head of the bird is held under the water until the bird shows signs of strangling. In this manner the medicine is made to penetrate the nasal passages. This system of treatment will usually cure ordinary cases, but in advanced cases, when the head is badly swollen, and the bird shows great weakness, any treatment will usually prove unsuccessful. Such birds should be killed and the bodies burned.

Hens that have recovered from roup should never be used in the breeding pens, as the tendency toward recurrent attacks is always present, and this tendency is transmitted to the offspring.

SCALY-LEGS

Scaly-leg is caused by a mite that burrows underneath the scales of the legs. As the mites increase the scales are lifted up, presenting a saw-edge appearance. The space beneath the scales becomes clogged with dirt and filth.

A good remedy for scaly-leg is equal parts of lard and kerosene, thoroughly applied to the fowl's legs. Kerosene alone is good, but will sometimes burn the fowl's legs. I find a good method is to coat the fowl's legs with the remedy and then bind on a cloth to keep the preparation on. In twenty-four hours, the birds are caught, and the legs given a thorough washing with soap and water. Most of the scales come off after one application, but sometimes it is necessary to repeat the treatment.

Another treatment for scaly-leg is to coat the legs with gas-tar.

WE GIVE THIS ROCKER

For Selling Only 20 Ten-Bar Boxes of American Bath Soap

NO MONEY NEEDED Just fill out Coupon below, giving us two satisfactory references (business men of your town who know you) and we will send you this beautiful Rocker and 20 ten-bar packages of our popular American Bath Toilet Soap. If, when you receive shipment, you find everything satisfactory, sell the Soap to your neighbors at 50c per 10-bar box—send the money to us within 30 days, and keep the Rocker as your reward.

A WHITE FLOATING SOAP FOR BATH AND LAUNDRY.

You Can Earn This Fine Rocker in a Few Hours

(888)

SATISFACTION GUARANTEED. NO PAY UNLESS PLEASED

DESCRIPTION OF ROCKER No. 90219

Strong, beautiful Rocker in a new design; back heavily upholstered with tucked and ruffled roll headrest; center of back finished in a diamond panel nicely tufted as shown in illustration; frame is of seasoned hardwood, finished in best grade of imitation quartered oak; spring seat is 21 inches wide; armrests and front posts are 4 1-2 inches wide; Rocker upholstered in good grade of black imitation leather.

SOAP EASY TO SELL

Mrs. Gehring of Kenosha, Wisc., says: "I am pleased with Rocker, and Soap was easy to sell. Your Premiums certainly are good."

Every housewife must have Toilet and Bath Soap, and when they see the ten-bar box of pure, white, floating Soap which we offer for only 50c, you will be able to make a sale at nearly every home. Don't miss this opportunity of securing a beautiful Rocker.

CROFTS & REED CO.
DEPT. B-528
CHICAGO

CROFTS & REED CO., Dept. B-528, Chicago

Please send me Rocker No. 90219 and 20 ten-bar boxes of your American Bath Toilet Soap, I agree to sell this Toilet Soap at 50c per ten-bar box—send you $10.00 within 30 days, and keep the Rocker as my reward.

Name.....

Str. Address.....

Town.....

State.....

GIVE TWO BUSINESS REFERENCES. UNLESS GOODS WILL NOT BE SHIPPED UNLESS THIS IS DONE.

The Peerless WALLET

For Valuable Papers

An Ideal Christmas Present for the head of the house, with his name stamped in gold on the handsome seal grain cover. This wallet contains eight strong envelopes for safe keeping valuable papers.

The Envelopes are Printed as Follows:

First—Everything in its proper place.
Second—Business Memoranda and Clippings.
Third—Life Insurance Policies.
Fourth—Fire Insurance Policies.
Fifth—Contracts.
Sixth—Notes and Mortgages.
Seventh—Deeds.
Eighth—Last Will and Testament.

This Wallet 10½ inches long by 5 inches wide is fitted with eight strong Manila Envelopes for filing receipts and various kinds of documents.

This handsome wallet will make a most practical and acceptable gift. It will fit into a safety deposit box or into the pigeon holes of a desk. Thousands of these wallets have been sold the past few weeks and you should mail us your order at once for Christmas delivery. **Send us 50 cents in stamps and write us plainly the name of the person to be stamped in gold.**

Price 50c. With Name Stamped in Gold; 40c. Unstamped, postpaid and mailed in special carton. Order from Dept. F-11.

THE ELWOOD MYERS COMPANY, SPRINGFIELD, OHIO

2 Big Dolls Given Away

Girls, if you want 2 of the cutest dolls you ever saw send for this doll family. Louise is over 2 ft. tall, very like a real youngster in size. She can wear a real baby's clothes. She will sit or stand. Brother Jimmie is a husky fellow and you will be delighted with both of these dollies Made of cloth, cannot be broken.

We want to give this doll family to a little girl or boy in each home. The only condition is that you send us 25 cents to pay for one yearly subscription to our famous monthly magazine.. **DOLL EDITOR, The FAMILY, Springfield, Ohio**

Talking Machine FREE

Nothing to Get Out of Order

Ball Bearing

A Child Can Operate It

This is a remarkable, clear-toned instument that produces the talking and singing voice, also instrumental music. One of the greatest inventions of the age. Plays flat records. Extremely simple—fitted with ball-bearing turntable; finished in aluminum, polished copper and green felt. We know this machine will please you.

SEND NO MONEY, just your name, and we will send you 12 sets of our fine art pictures to dispose of on Special Offer at 25c. Send us the $3 you collect and for your trouble we will send you this wonderful machine and selections of records.

M. O. SEITZ, Dept. 11T43 Chicago

6 LACE CURTAINS FREE

For selling 12 boxes **White Cloverine Salve** at 25c per box. Give **beautiful picture free** with each box. Everybody buys 2 to 3 boxes when you show pictures. Send for one dozen today. **WILSON CHEMICAL CO., Dept. N. 146, Tyrone, Pa**

POULTRY PAPER 44-124 PAGE periodical; up-to-date; tells all you want to know about care and management of poultry for pleasure or profit. **Four** months, for **10** cents.

POULTRY ADVOCATE, Dept. 182, Syracuse, N. Y.

Old Coins WANTED, $1 to $600 paid for hundreds of coins dated before 1894. Send 10c for our Ill. Coin Value Book. It may mean your fortune. **OLD COIN CO.,** 302 EAST 31st ST., **CHICAGO**

FREE

POWERFUL AIR RIFLE

Length 31½ inches. Working parts of the best grades of steel. Lever action, shooting barrel removable. Use shot or darts. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 3 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one, to try, as we take back those you can't dispose of. Send no money, just your name and address. **M. O. SEITZ,** 11D13 **CHICAGO.**

IT COSTS YOU NOTHING

BUMPER CROPS

All cultivated lands yield less year by year unless a wise system of soil conservation be adopted. It is not difficult to harvest a bumper crop from rich soil in a favorable season. It is not impossible to reclaim a wornout soil, and force it to yield maximum crops. Prudence requires that a soil already fertile be made to yield bountifully without becoming depleted.

From a mass of superstitions, traditions and unscientific theories the great minds of the present generation have drawn some everlasting truths. When these are applied to the business of tilling the soil the farmer is enabled to raise bumper crops indefinitely—weather being favorable.

The most important of these truths is that maximum crops can be grown only on rich lands. The next is that a soil is rich when it contains adequate amounts of available plant-food.

Except for sour soils, which need lime, ordinary soils can be made rich by liberal applications of manure. In the absence of manure, legume crops plowed under will supply the necessary humus and nitrogen. Most soils need more phosphorus, and this in the form of rock phosphate (about one ton per acre every six years) is the only "commercial fertilizer" the ordinary farmer ever needs to buy.

In addition to the above, well-drained land that is put in good mechanical condition by proper tillage will yield crops that bring prosperity—for profits come not from average yields. It costs but little more to grow 100 bushels of corn than 25, so that the extra 75 bushels is almost clear profit. If it's profit you seek, remember that rich farmers live on rich lands, while poor farmers live on poor lands.

PERFECTION IN EGGS

The city of Dallas and Dallas County, Texas, have taken the lead in the organization of "Egg-Selling Clubs." The object of any co-operative organization is to save the waste, and the aim of these organizations or clubs is to eliminate the bad eggs.

It is said that two eggs out of every dozen are waste, having spoiled before they reached the consumer. This loss of 16 2-3 cents on every dollar is saved by this plan of an organized selling system.

In each club, we find members all belonging to a certain rural community, who organize themselves into this league for their own good—as a standard in eggs calls for a much better price.

Some of the rules by which these organizations are carried on are:

Each member must furnish a certain number of dozen eggs per week, at a certain price the year round.

Each member must have their mark, or number, stamped on every egg they sell. This mark is also registered with the club secretary; hence the producer of bad eggs is easily located.

Every bad egg found against a number calls for a dozen free eggs; two bad eggs two dozen, and the third offense three dozen; after which, if another case is found against this number, expulsion from the club is the consequence.

Thus they hope to eliminate the bad

eggs by making the producer careful as to what he markets, and for the consumer to demand nothing but the standard.

Dallas County has perfected the organization of about ten such clubs, which are at work. These clubs hope, in time, to save Dallas and vicinity thousands of dollars by getting the women of Dallas to use only "Dalco Select" eggs, which stands for perfection in eggs. By having this guaranty, all bad eggs will be eliminated, thus saving the middleman or merchant and the housewife from uncalled-for loss. —Mrs. R. H. Davis.

CLEANING STOVE PIPES

When stove pipes becomes foul with soot, instead of taking them down and cleaning them that way, often times they are cleaned by burning some material that will cause the soot to be consumed. The soot is usually unconsumed fuel in a very finely divided state. The material burned to consume this soot unites with it forming a more easily combustible mixture than the soot is by itself.

Scraps of zinc on hot coals will be found to be excellent to remove the soot. It will, likewise, serve to clean chimneys, if the latter are not too large. There are on the market several preparations for this purpose. They usually come put up in round paper cans. In some of these zinc is the basis of the preparation. Scraps of zinc, which are obtainable at any tin shop, will serve the purpose quite as well.—L. D. Crain, Col. Ag. Coll.

ANIMAL DISEASES COSTLY

It is estimated that the United States has already expended over $1,500,000 in fighting foot-and-mouth disease, and it has not yet been exterminated. While this amount seems large, and yet when compared with the aggregate losses from other contagious diseases of animals it is not so astonishing.

It is estimated that Texas fever causes a loss of $40,000,000 a year. The government has been spending large sums of money fighting the fever tick which causes the disease, but the greatest loss is to the southern states, which, because of quarantine, are excluded from the markets of the north for several months each year. Tuberculosis of livestock comes next with a loss of $25,000,000; contagious abortion, $20,000,000; anthrax, $1,500,000; scabies of sheep and cattle, $4,600,000; blackleg, $6,000,000; glanders, $5,000,000; parasites, $7,000,000; poultry diseases, $8,750,000; other diseases of livestock, $22,000,000, making a grand total of over $200,000,000 lost to breeders and dealers in livestock every year.

Most of these diseases are preventable. These figures, which are given us by competent authority, suggests the field of opportunity that invites the veterinary profession. We must in the future raise the livestock to feed the ever increasing population, and with the increased livestock production we may expect more diseases. The control of animal diseases constitutes one of the great economic problems of this country, and it is up to the veterinary profession to do it.—Geo. H. Glover, Col. Ag. Coll.

FREE TO THE RUPTURED

DON'T WEAR A TRUSS

FREE TRIAL

The inner surface is made self-adhesive to prevent slipping and consequent chafing and pressure upon pubic bone. Also to hold the distended muscles securely in place and keep the PLAPAO continually applied.

Do Away With Steel and Rubber Bands

THAT CHAFE AND PINCH

You know by your own experience the truss is a mere makeshift—a false prop against a collapsing wall—and is undermining your health. Why then continue to wear it? The binding and pressure prevent proper blood circulation, thus robbing the weakened muscles of the nourishment which they must have if you expect them to regain their normal strength and elasticity.

The Plapao-Pads Are Different

STUART'S PLAPAO-PADS are entirely different from the device called the truss in the following respects:

First—The primary and **most important** object of the PLAPAO-PAD is to keep **constantly applied** to the relaxed muscles the medication called **Plapao**, which is **contractive** in nature, and **taken together** with the ingredients in the medicated mass is intended to **increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second—Being made self-adhesive, **purposely** to **prevent** the **pad** from **shifting,** they **have** therefore proven to be an **important adjunct** in retaining rupture that **cannot be held** by a truss. There is no **metal about** the PLAPAO-PADS—no **straps, buckles or** springs attached. No "digging in" or grinding pressure. They are **soft as velvet—Flexible—Easy to apply—Inexpensive.** Continuous day and night treatment at home. No delay from work.

Bring About These Benefits

Close the Hernial opening as nature intended so the rupture **can't** come down, and when the PLAPAO-PAD is successfully applied these wonderful benefits quickly follow:

—The ruptured parts are sustained and held together.

—The weak muscles recover their elasticity and strength.

—The unsightly, painful and dangerous protrusions disappear.

—That horrible "dragging down" sensation is banished, never to return.

—You recover the vigor, vitality, energy and strength you have lost.

—You look better, you **feel** better, and you **are better** in **every way.** Everyone remarks upon your **improved appearance.** And relieved from the pain and discomfort of the rupture, and your **dread** of its **consequences,** your **spirits rise,** your health **improves,** you once more are **able** to **enjoy life** without **fear** of **trouble.**

Hundreds of **people, old** and **young,** have gone before an **officer qualified to acknowledge oaths,** and **swore** that PLAPAO-PADS **cured** their ruptures—some of them most **aggravated** cases—and of **long** standing. **It is reasonable that** they should do the same **for you—Give** them a chance.

SEND TODAY FOR THE FREE PLAPAO

NOTHING TO PAY—NOW OR EVER

We want to prove to you at our expense, that you can conquer your rupture, right at home, and while going about your daily duties. Just sign and mail the attached coupon for absolutely

FREE TRIAL PLAPAO

and 48-page book on rupture. Nothing to pay—now or ever. Nothing to be returned. Don't put this off. 'Tis madness to defer. Mail the coupon **today.**

PLAPAO LABORATORIES, Inc.
Block 1732, ST. LOUIS, MO.

GENTLEMEN:—Without cost or obligation on my part—now or ever—please send by return mail trial of PLAPAO and 48-page book on rupture.

Name.....

Address.....

20-SHOT PISTOL

SHOOTS B. B. SHOT

20 TIMES WITHOUT RELOADING

Looks like a regular automatic. Gun metal finish—well made—will last a lifetime. Shoots accurately and to the mark. For indoor or outdoor target practice. More fun with this, boys, than anything else you ever owned. Send quick. Surprise the boys in your home town.

Free Offer to Boys Send only 25c for one year's subscription to *Everyday Life* and names of 5 boy friends, and we will send pistol free for your trouble. This offer to introduce. Everyday Life, 11AP43, Chicago

AGENTS, HURRY! IT'S GREAT!

GET AN APPOINTMENT--$50 TO $100 A WEEK

SENSATIONAL OPPORTUNITY FOR MONEY MAKING—MEN AND WOMEN

Every home needs—wants—must have it. Women buy eagerly. Agents excited. Orders coming thick and fast. Brand new. Field untouched. Nothing ever like it before.

FREE SAMPLE TO AGENTS **Never such a seller.** Never such a wonderful invention. Be quick—don't wait—experience unnecessary. Just listen! One woman made **$18.00 first half day.** Another sold 45 first week. Marvelous results reported from every state. Read on about this great modern household invention. Millions have wanted—needed for years. Only enjoyed by rich. But here at last for rich and poor. **The Peerless Self Heating Kerosene Iron**—Blessing to all. **Burns Common Kerosene** (Coal Oil) the cheapest and safest fuel known. **HALF CENT DOES ORDINARY IRONING.** No stopping—no waiting to change irons. No coal or wood fire—no smut, dirt. Clothes ironed better in half the time. **Saves miles of walking**—saves time, temper—saves the woman. The Peerless does it all. At last a perfect self heating iron that burns common oil—**NOT DANGEROUS LIKE GASOLINE.** **Low price** places it within the reach of millions. No pumps, wires, tanks protruding to get in the way—absolutely the last word in modern household inventions. Iron anywhere—anyplace—on porch, under tree, in any room. Right weight—right shape—right price. Operated in any home by even a child. Different from anything you have ever seen. Sold on demonstration. Women can't resist. **Shown in three minutes—sold in Five.** Then go on to the next. Women praising, make sales easy. Saves drudgery, time and money. No more blue mondays—no more backache. Never such a money maker—never such a blessing to women. Never such a chance to make money easy—quick. **Big profit on every sale.** But you must hurry. Agencies going. Everybody on the jump. All eager—say it's great. So hurry—you can't fail. Get busy now. Grand invention—great seller. **(HURRAH! JOIN THE MONEY MAKERS!)** The **MONEY ROLLS IN**—get this money. Don't be satisfied with small wages. Don't just exist. **HOW SPLENDID TO HAVE MONEY IN ABUNDANCE. BREAK AWAY!** Send today! Don't write a letter—just a card. Only write—that's all. **Begin now to make money.** Gain freedom from long hours, drudgery, bossism, job hunting. We want more agents, salesmen, managers—Men and Women—at home or travelling, all or spare time to fill orders, appointing, supply, control sub-agents. You can't make a mistake. **SEND NO MONEY.** Just your name on a card. We'll send full instructions and offer you good territory. We'll help—we'll start you making money. **WRITE.**

PEERLESS MANUFACTURING CO. **70 PEERLESS BLDG., CINCINNATI, O.**

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Sworn to and subscribed before me this 28th day of September, 1915.

{Seal} Harry A. Brenner, Notary Public, Clark County, Ohio.
(My commission expires March 23d, 1918.)

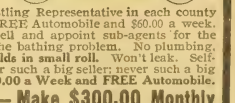
BOYS Earn a Watch FREE

I will give you *FREE and Postpaid* a handsome, genuine, *Pure Simulated Gold Watch* for doing 15 minutes advertising work. Watch absolutely guaranteed. Write me *now*—today, *quick* and I will send you my simple and easy plan by return mail. Send me your name and address *right* away.
TYSON JARVIS, Box 33, Spencer, Indiana

1915 MODEL 22 Cal. HUNTING RIFLE Free

A REAL GUN. Take-Down pattern, with latest improvements, walnut stock and grip. Shoots accurately 22 long or short cartridges. Handsome, durable. **SEND NO MONEY** only your name and address for my easy plan of securing this fine rifle **Absolutely Free** express prepaid. Write today. **D. W. BEACH, Box 33, Spencer, Ind.**

$60 A WEEK AND THIS FREE AUTOMOBILE



I OFFER this Big Money and a FREE Automobile to one hustling Representative in each county in the U. S. This is not a contest. Every agent can get a FREE Automobile and $60.00 a week. You don't need experience. I want you to advertise, sell and appoint sub-agents for the **Robinson Folding Bath Tub.** It's a whirlwind seller. Solves the bathing problem. No plumbing, no waterworks needed. Full length baths in any room. **Folds in small roll.** Won't leak. Self-emptying. *Ten-year Guarantee.* Rivals $100 bath-room. Never such a big seller; never such a big money-maker. Never such a liberal offer as this. **Think! $60.00 a Week and FREE Automobile.**

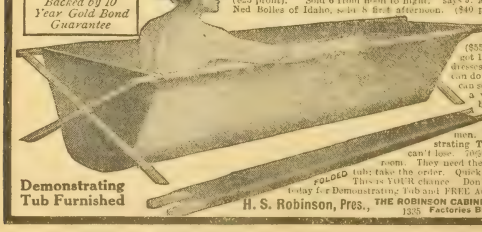
Exclusive Territory. 100% Profit.

Backed by 10 Year Gold Bond Guarantee

Sell 2 Tubs Daily—Make $300.00 Monthly

It's easy. You can do it. J. H. Brown, N. J. says: "14 calls, 14 sales. Howls that!" ($70 profit). R. C. McCartney, Mich., says: "Sold 5 tubs in 15 hours." ($25 profit). "Sold 6 from noon to night," says J. A. Hembd, S. D. ($30 profit). Ned Bolles of Idaho, sold 8 first afternoon. ($40 profit). H. M. Veiry, N. D., sold 10 in 3 days. ($50 profit). W. A. Gloeckler, S. D., sold 11 in 3 days. ($55 profit). A. R. Engle, Mont., got 11 orders in 2 1-2 days. (Addresses furnished on request) You can do as well as these men. You can sell 2 a day. That means $60 a week, clean profit, and a big, speedy Touring Car Free.

Little capital needed. I grant credit to deserving men. Furnish you with a Demonstrating Tub, on liberal plan. You can't lose. 70% of the homes have no bath-room. They need the Robinson Tub. Just show FOLDED tub; take the order. Quick sales and immense profits. This is YOUR chance. Don't delay. Get busy. Write today for Demonstrating Tub and FREE Automobile offer.



Demonstrating Tub Furnished

H. S. Robinson, Pres., THE ROBINSON CABINET MFG. CO., 1305 Factories Building, **Toledo, O.**

Farming With Dynamite

(Continued from Page 7)

of the agencies which help to bring about these desirable results, which really are only the decomposing of the unavailable plant food elements, is the bacteria. Bacteria of the beneficial kinds demand certain conditions in the soil before they can do their work that is of so great benefit to trees and plants.

Such conditions are brought about by blasting better than in any other way. As soon as the ground is blasted, the bacteria begin to increase. Since one family of bacteria can raise a crop of children in a few hours, and since their families, under favorable soil conditions, invariably number several thousand, within a few days or weeks after proper dynamiting, there will be countless millions of little helpers at work improving the soil; while the farmer, instead of hustling his head off in the old-fashioned way, is taking his time in planning out next year's crops ahead of season.

Let us suppose that someone has purchased one of the many so-called "abandoned" farms, at a cheap price. The land has not been cultivated for at least five years, and the soil is hard and close. This can be put in first-class condition by "sub-soiling" with farm powder. Small charges of dynamite are placed over the territory at various intervals and set off; this loosens up the earth. Then all that is necessary is a shallow plowing and harrowing. Plowing is all very well, but at best it only turns over a thin layer a few inches thick. The ground below the ploughshare is hard, and the tiny roots from any vegetables or plants cannot penetrate it. The explosives break up this compact mass for several inches. There are very few fruit trees on this particular farm. They can be easily planted with powder, however.

In one corner of this rundown farm is a piece of perhaps two acres covered with stumps and boulders. This land could be put in order for cultivation with explosives. There is no excuse today for the existence of a tract of unsightly stump or boulder-covered land. One corner of this piece is low and wet, and the up-to-date cultivator could blast a ditch through it and drain the marshy district. In addition to all this, Mr. Landowner decides to put a fence around a portion of his homestead, and so uses a small quantity of powder and blows holes for his posts. Within two months after purchasing this abandoned farm, it has been put in good order, it is yielding large crops, and could not be bought for ten times its original purchasing price.

The fineness and looseness of the ground after blasting is one of the conditions which helps increase the number of valuable bacteria, but a greater one is the presence of more moisture in the soil. When ground is blasted it is put in shape to absorb and hold, like a sponge, a lot more water than it would when it was packed tightly. This water, of course, feeds the plants directly, and aids them to live and thrive lustily right on through any drouth. But its presence in the ground does far more than that. It enables more bacteria to live, and it also dissolves potash and phosphorus directly.

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100 pounds to the keg, mixed together. Lot R-33, price per keg, **$1.38.** 1,000 kegs 10 penny-weight regular new wire nails, 100 pounds to the keg, while they last, per keg, **$1.85.** Order by lot No. R-33. Write for free Wire and Fence Catalog. Gives valuable information.

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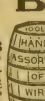

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15c per rod buys good, heavy fence, bought in a recent big deal, perfectly adapted for hogs and general farm purposes, 26 in. high, square mesh, put up in suitable size rolls. Lot R-31. Other heights at proportionately low prices. Staples, 100 lbs. **$1.85.**

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It may mean to you all the difference between success and failure. Will you, by training yourself in a few short weeks, become a competent, expert automobile man? **Cash in on your time.** How would you like to have an earning capacity of $5 a day and up? How would you like to have a trade that will always insure you good wages, independence, opportunity to see the world? How would you like to be in demand? Have employers looking for you—have big opportunities for a successful career spread out before you? Now young man, you can't do this simply by wishing. You have to take **action.** This Automobile School has over 2000 successful graduates. Practically all came here without the slightest experience. But all had **ambition** and **resolution.** If you have these qualities you can be sure of success. The **first step** is to send the coupon and get the big free book. It obligates you in no manner—binds you to nothing. But it gives you without cost or trouble all the facts you should know. Learn how others have made good. A post card or coupon brings this book today.

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The Sweeney School has the most complete equipment of any school in the world; more pupils, more successful graduates, to afford better practical instruction. We want every young man to investigate these claims and to see for himself before he pays down one cent of tuition. We have just ordered the new 12 Cylinder Packard, and will have the first delivered in Kansas City. Also the new Overland, with silent Knight sleeve-valve motor.

We own 5 tractors and in our own factory are building the famous Sweeney Tractor ($985), thus giving students a wonderful advantage in factory experience. This feature alone offers a unique opportunity to young men who wish to become experts in the tractor field.

We have put in a new 8 cylinder Buda Motor, a Fellowes Gear Shaper, 18-inch American Quick-Change Lathe, and a 24-inch Planer. In our machine shop, we make our own gears, in a word the very latest developments are put in the hands of our students, as we know our success depends on making **you** competent to handle any mechanical proposition and of being strictly abreast of the very latest developments.

Tractor Course Free

To advertise the school and also to give special training in a branch that is getting more important all the time, I will give a complete $50 scholarship in **Traction Engineering** free with an enrollment for the regular automobile school course. Now, as you know, we not only have 5 tractors here but I have a big factory where we build the famous **Sweeney Iron Horse.** You are taught by men that know how. So this tractor scholarship **means real value.**

THE SWEENEY SYSTEM *of* PRACTICAL AUTO INSTRUCTION

is now universally recognized as a most thorough, practical and interesting course of automobile instruction, leading to certain and profitable EMPLOYMENT. It embraces every point worth knowing, including vulcanizing, brazing, oxyacetylene welding, lathe work, machine shop practice, testing, driving, truck repairing and operating, etc. AND YOU LEARN by doing the work on REAL CARS under the watchful eyes of skilled instructors.

Make $5 Per Day and UP

21,000 tractors were sold this year. Over half a million automobiles. Who's going to drive and repair them? Men are in big demand. Our school is doing *double* the business it did last year. Nothing succeeds like success. Don't you want to make $5 a day and up? There is money in the automobile business for you. Read this letter from one of our boys. We have hundreds like it:

Hollis Motor Company, Delphos, Kansas.
Oct. 12, 1915.

Dear Sweeney:—I left your school two years ago this month, and have been making some real money since then. Was out of school about a week when I landed a job at $20.00 per week to start; the past year my brother and I have been selling Maxwells in Rush county as per letterhead.

Now I can recommend your school to anyone that wants to get in a business where they can make real money all of the time. Also you can use this letter in any way you see fit. Yours truly,

S. F. HOLLIS.

Experience Is the Best Teacher

This is the only way to learn. Do things with your own hands. Practice beats theory. We do not merely tell you how; we show you how, and you then do the work yourself. We have over 40 cars of all makes on our floor, eight trucks, five tractors, and our DRIVING TEACHERS keep out on the road nearly twelve hours a day. YOU GET PLENTY of WORK of all sorts.

No Books Used; Tools Furnished Free

The tuition is low and after you have paid that there are NO MORE expenses or extras you have to buy. If you could learn from a book there are lots published you could read at home, but **practical work** is the only method, and this is what makes my School so successful.

This Big Book Costs Me 50 Cents BUT I SEND IT FREE

If you are interested in planning your future and mean to investigate the opportunities before you, I will gladly send you my automobile book. This book is almost like a visit as it has 123 illustrations showing men at work in every department. It pictures the wonderful equipment of the Sweeney School. It shows how you are taught, shows the class of men you will associate with, portrays various phases of the automobile industry, explains how, when and where you begin to earn money, in a word is a complete encyclopedia of the subject. Simply send name and address today.

E. J. SWEENEY

SWEENEY AUTOMOBILE SCHOOL, 1195 E. 15th Street, Kansas City, Mo.

FARM NEWS

Wishes You All a Very

Merry Christmas

December
1915

$1500.00 In One Month By This Man

Mr. H. W. Eakins is the man—he made it with one of my Crispette Machines—paid his last $10 for rent of a store window—at the end of 30 days he had $1,500 clear profit in the bank. Today he is independent—so good a man that he is now a part of this organization—and has charge of all the sales. You will meet him if you come to Springfield. He will tell you the wonderful story of his success—show you how it is done, so that you too, may succeed.

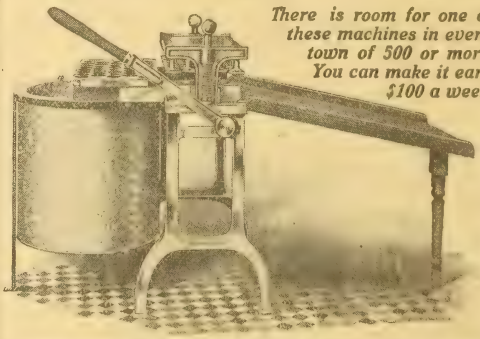
I'll Help You Start in the Same Business

Help you to follow in Mr. Eakins' footsteps. Quit earning just a bare living. Stop waiting for something better to turn up—go out and make fortune smile on you—build up a big paying business.
Experience is unnecessary—others are doing it—you should do it. Think of the fortunes made in five-cent pieces—street cars, moving picture shows, chewing gum, 5c and 10c stores. Everyone will spend a nickel—everyone likes Crispettes—children, parents, old folks. You can start anywhere, in a store window—small store room, or the kitchen of your own home. The start is the important thing—the Crispette Machine and Long's secret formula will do the rest—a sure way to independence and fortune—MAKE MONEY FROM THE START.

This is the largest and handsomest confectionery store in Springfield—I own it—and every penny is due to popcorn crispettes and a crispette machine. It has made me rich—independent—it can do the same for you.

Every Nickel Sale Nets You About 4 Cents Profit

Every 20c invested returns practically $1.00 cash. Not theory—not guess work—not imagination—but the actual proven records of Crispette merchants from one end of the country to the other. **The world hungers for the different and pays dollar-after-dollar every year to satisfy this desire.** Why not be the one to satisfy the demand in your locality and reap your share of the golden harvest now ripe and ready? What salary do you earn—what salary do you get? What you receive from your employer represents but a small portion of what you really earn—get on the other side—take only what you want—all that your ability will permit. I'll help you—make you a partner in this wonderful opportunity—sharer in all the profits of your efforts. It is certain—it is easy.



There is room for one of these machines in every town of 500 or more. You can make it earn $100 a week.

Come to Springfield at My Expense

Within a radius of 300 miles of Springfield I will pay your expenses if you buy a machine. Come to investigate every phase of the business—make us prove every statement beyond the question of a doubt—make us show how the **enormous, honest, legitimate profits are made with such a small investment** and light running expenses—make us convince you that any man of ordinary intelligence, ambition and energy can make a Crispette Machine pay for itself in a few weeks.

Fill in the coupon—send for free book, "DOLLARS and SENSE." It tells the whole story—how and where to start—how to succeed—gives the experience of others. It is worth reading even if you do not start. If you are looking for a good proposition—a big money maker send today for this book.

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DECEMBER — the gift month! "Give; it is like God," says an old proverb. Christmas is a happy time because then the best feelings of the heart are elicited and allowed full play. What would otherwise be smothered down as suggestive of sentimentality, as unseemly, as indicative of a too dear dream, may venture forth in the good congeniality of the Christmas season and, quickly attaining unto beautiful gift-fulness blossom out in good will, gladness, Christ-like kindliness, blessing and blessed.

It is well that there should be such a season. We are all kinder than we seem. Life as it comes to us with its imperative pressure of duty demands, its brain racking cares for the immediate future, its pitiful misunderstandings leading unto estrangements, coldness, forgetfulness—life, even as it is and ever must be unto us mortals, creates, as it were, an icy film over what is the kindliest and best in all our hearts.

Then comes the Christmas season, with its memories of other years, of better, happier hours, and the hand of a little child brushes away that ice film, and there rise up silently into our busy day those gentler, kindlier feelings which, though dormant, were not dead.

At home we are loved best; there, too, we love best. In the genial Christian home, as in no other place on earth, there are full meaning, full appreciation, full enjoyment of the God given gift, Christmas.

OUR CHRISTMAS OFFER

We have used our best endeavors during the past year to give you the best possible magazine for the lowest possible price. We have tried to please you, and hope we have succeeded.

Like unto all others, we, too, like to remember our friends at Christmas time, and while we cannot afford to send a gift to each of our hundreds of thousands of readers, we are going to do the next best thing, and give you a full two years' subscription to Farm News for only 30 Cents.

You can have the magazine sent to yourself for two years, or you can have it sent to two friends for one year each, or to yourself for one year and some friend for one year. Take advantage of this Christmas offer today.

THIS OFFER IS GOOD ONLY DURING THE MONTH OF DECEMBER

Wishing you all a Merry Christmas.
The Editor.

The outlook for the farmer is promising. Influenced as markets and prices are by our foreign commerce, the results of the past few months in our trade abroad indicate a bright future.

The United States Commerce Reports of September 20th, show the following figures for the seven months ending July 1915:

Exports of foodstuffs—in crude condition, partly or wholly manufactured, and of food animals	$626,269,730
Imports of the same class of materials for the same period	312,683,611
Excess in favor of the United States	$313,586,119

This should mean a good market at good prices for all food products the coming year. There is cause for the greatest optimism and this will affect the prosperity of the entire country.

This brings up the point that few of us realize; the great influence our foreign trade has on agriculture and business. It has taken the terrible European War to wake us up to the needs of an increased, substantial commerce with other nations.

And it looks as if the war might last much longer. We predict that it will bring the American farmer into his own.

Big Cash Prize Announcements

Hundreds of Dollars Will be Given Away to Our Readers This Winter

CONTEST BEGINS IN THE JANUARY NUMBER

GENERAL FARMING SUBJECTS

For what we consider the best contribution on any branch of farming we will pay

$5.00 IN GOLD
$3.00 IN CASH for the Second Best
$1.00 for each other contribution used

This is what we want you to tell us about: Have you discovered any new and labor-saving ways to do any of the general work on the farm, such as feeding, doing the chores, or any way to cut the cost or time in performing the necessary work of any particular branch of farming? Or have you specialized in any one particular branch of farming or stock-raising? If so, tell us about it, and if you have a picture, send it along.

CASH-PRIZE POULTRY CONTEST

For what we consider the best contribution on any branch of Poultry-Raising, we will pay

$5.00 IN GOLD
$3.00 IN CASH for the Second Best
$1.00 for each other contribution used

We want our poultry men and women to tell us of their experiences in raising poultry, more particularly with incubators for hatching. But we also want you to tell us about your success or failure in other things connected with Poultry-raising, breeding, hatching eggs, marketing, feeds, remedies for diseases, culling, judging the fowls for egg-production or breeding purposes, etc. In fact, anything which you think would be of value to your fellow poultry-raisers.

CONDITIONS: All readers of FARM NEWS are eligible to enter these contests. Write on any kind of paper, only do not write on both sides. Give us your story—we will dress it up before publishing it. Tell it in your own way. And, if possible, send along your picture. There is no entrance fee. It is absolutely free. Send your contributions to

PRIZE CONTRIBUTION EDITOR, FARM NEWS, SPRINGFIELD, OHIO

HORSE BREEDING A PAYING BUSINESS

Outlook Extremely Bright for the Breeder Who Will Produce the Animal of True Merit

By J. A. Raiser

IN LOOKING about us we do not see as many genuinely good horses as we should like to see. And what are the reasons? It is hard to tell, but I believe it is mostly due to a carelessness in breeding in the first place, and carelessness in handling in the second place. A horse that is of good parentage is apt to lose much that is its just due through careless management. And, on the other hand, good management expended on an illy bred horse cannot produce the perfect horse either, but it will bring out the best that is in the horse, and that should be the aim of every horse tender, no matter how the horse is bred.

I believe good breeding encourages good management. At least better management than common. The mongrel discourages good management, while the purebred encourages, inspires, and leads on to the best of efforts. In the stable good management of horses should be the rule, but to encourage it good breeding should have first attention, so that the former will follow more naturally. I have yet to see the owner, or even the caretaker, of a purebred, fancy team of horses with a pedigree, who is careless in the management of that team. His pride in those horses will not allow it. It is the "plug" that gets the cuffs and ill-usage every time.

The hit-and-miss manner of breeding mares is largely responsible for the lack of really good horses, and should be improved upon. As breeding, or parentage, is the foundation from which good horses emanate, it should be the breeder's aim to see that the foundation is lacking in nothing, or at least is as good as conditions will allow.

The frequent crossing and mixing of breeds, the mating of chunks and plugs, breeding heavy sires to light mares, heavy mares to light sires, etc., etc., is responsible for the nondescript quality of horses of today. The imported coach sire that comes into the neighborhood is used for all kinds of mares, contrary to the fact that horses should be bred for a purpose, and that like begets like, and mixed breeding nondescript progeny.

It should be kept in mind that there are only three classes of horses worthy of consideration by the breeders of today. These are draft, carriage or general purpose, and saddlers. Owing to the greatly mixed breeding that is being done, there is a great corruption from the original of these three classes resulting in horses than can scarcely be classed under any one of these. This discourages a ready sale at good prices for your product, and is responsible for the many mongrel types of horses we see up and down the land, furnishing the power for the farm and the traffic of the bustling city streets.

Type of sire used to build up and maintain consistent quality

Every farmer should select and breed the class of horses which appeals to him most strongly, and stick to that breed as long as he is successful and satisfied with it. Successful horse breeders are few compared with unsuccessful ones, therefore there is naturally always a ready demand for good horses. In fact the demand exceeds the available supply, and fancy prices are to be had for first-class horses. This fact should encourage more farmers to go into the business.

Of the three classes of horses mentioned above, the draft horse commands best sale and best prices. The markets demand horses weighing 1700 pounds and upward, that have good body conformation, large feet of good texture, strong, clean bone, large, sound joints, heavy muscular development, combined with good, straight, snappy action. Such horses command highest prices, and are very scarce. "The statistics for the year 1911 show that only one horse out of every twenty sold at our leading horse markets filled the bill," said W. J. Kennedy, professor and vice director of the Iowa Experiment station, in an address before the Interstate Breeders' Association.

That was several years ago, and today the demand for horses of this kind is even greater and more critical, and the supply to fill the bill even smaller. The farmer who sells a good draft mare is making a serious mistake. A good draft mare, if she is used for work and breeding purposes, is worth twice as much to him on the farm as she will sell for in any horse market. If mated to an equally good, or perhaps better, stallion, he will have what is as good as its equivalent in a bank account coming on each year in a valuable colt.

However, important as breeding may be as a prime factor, or first principle, feeding is equally as important. If our feeding is not up to our breeding we minimize the possibilities of our finished product. Improved blood, not supported by good feeding, avails little. Good breeding and good feeding are twin essentials that should go hand in hand.

A colt, however well bred it may be, if it is stunted by poor feeding the first two years, can never entirely regain its lost growth. The ultimate size of a horse is very largely determined the first two years of its life. The colt should be carefully fed from the time it will eat until growth is finished. Care should be exercised that there be no check at weaning time.

Colts should be taught to eat before weaning time. Fix a trough for them in which they should have a little grain at least twice a day. Oats is about

Grade geldings of real worth, and a type for which the demand is never supplied

the best grain for colts. If that is not to be had, equal weights of corn and bran make a good substitute.

As a roughage for colts clover hay excels any of the other feeds usually available on the farm. Alfalfa is a good substitute. Colts should not be too much confined. Always keep the ultimate size of the finished product, as it should be to bring the highest market prices, in view, and you will strive to do your best in raising colts to maturity, knowing that success depends upon it.

WINTERING HORSES PROFITABLY

The winter care and feeding of horses is an important problem on every farm. On its face it looks easy; going to a greater depth, however, it is not nearly as easy as it appears on the surface. The problem is more intricate than we think. The summer care and feeding problem is much less so, as it appears to me. The exercise horses receive, and the work they perform in summer, tends to ward off many of the ills horses are heir to in the winter months of enforced idleness.

If the farm home is so rich as to possess boys, care of horses is usually their chore, and they will perform it well or indifferently, just as they are constituted or have been brought up and taught to do by their elders. This was my job when I was a boy, and I am glad now I was early taught at least some of the rudiments of caring for horses. Boys should be encouraged in this line of work. It will come handy to them later in life if they remain on the farm, and even if they leave it. I believe, altho boys may be efficient enough, caring for horses should be under superior supervision, if not always, at least occasionally. The experience and superior knowledge should never be so far removed that its seasonable council and advice is not available in times of need.

The horse has a smaller stomach than the cow, and consequently is sooner overfed than a cow. Meaning well enough, boys are sometimes over generous in feeding horses, with evil resulting from it. Experienced men are sometimes guilty of this also. Usually the fault lies in their not varying in the given allowance of feed to fully agree with horses according to the amount of work they perform, the same amount of feed being allowed horses while idle as when performing hard work, which is more than can be assimilated properly. Especially is this the case when work alternates with a little season of idleness and then resumed again.

Again, there are farmers who are prone to cut the winter feed bill down to a lower item than is conducive to the well-being of their horses, and consequently they grow thin and in poor physical condition. This is an extreme almost worse than the other. Perhaps not as far as the health of the animal is concerned, for, I believe there is greater danger of losing an overfed horse through some disease taking hold than with an underfed horse, but I am far from encouraging the latter condition on this account.

We find corn-fodder makes an excellent feed for horses in winter, provided it is put up in prime condition. No moldy fodder should be fed. We feed a little grain with the corn-fodder, just enough to balance the ration. A mixture of corn and oats, equal portions of each, or corn alternated with oats is better than one or the other fed exclusively.

We prefer to feed three times a day, and not so much at a time. Many farmers feed only twice a day. There are those who feed corn-fodder or hay twice a day, morning and evening, then fill the mangers with bright straw at noon of which they may eat what they want and the rest is then used for bedding. I do not believe it is necessary to feed any grain to idle horses when good clover hay is fed.

Horses should be fed and watered as regularly as possible. They will then learn to remain more quiet and contented during intervals between feedings. Horses should have exercise in winter. This is as necessary to their health as careful feeding.

Horses, being susceptible to colds and pneumonia, should be carefully sheltered in winter. When hitched, and obliged to stand in the cold, they should be blanketed. I believe farmers as a rule are careful as to this, especially that class of farmers who hitch every Sunday at the church.

Several weeks prior to hard work horses should be brought up to a fine physical condition, then pressed into service and innured to hard work gradually. Special care should be exercised at this crucial point, as horses that have been idle protractedly are naturally weak and tender in flesh.

WISE WORDS

A Physician on Food

A physician out in Oregon has views about food. He says:

"I have always believed that the duty of the physician does not cease with treating the sick, but that we owe it to humanity to teach them how to protect their health especially by hygienic and dietetic laws.

"With such a feeling as to my duty I take great pleasure in saying, that, in my own experience and also from personal observation, I have found no food to equal Grape-Nuts and that I find there is almost no limit to the great benefit this food will bring when used in all cases of sickness and convalescence.

"It is my experience that no physical condition forbids the use of Grape-Nuts. To persons in health there is nothing so nourishing and acceptable to the stomach especially at breakfast to start the machinery of the human system on the day's work.

"In cases of indigestion I know that a complete breakfast can be made of Grape-Nuts and cream; and I think it is necessary not to overload the stomach at the morning meal. I also know the great value of Grape-Nuts when the stomach is too weak to digest other food.

"This is written after an experience of more than 20 years treating all manner of chronic and acute diseases, and the letter is voluntary on my part without any request for it."

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London, Ontario, Canada

BUTCHERING AND CARE OF MEAT

The Whole Operation From Stunning the Hog to the Toothsome Sausage, Smoked Ham and Bacon

By Prof. P. F. Trowbridge, Missouri College of Agriculture

CRISP, frosty mornings warn us that hog-killing time is coming. The farmer is entitled to the best pork that can be produced. It is better not to wait until the animals are fat, but to select a few at once and feed them especially for home butchering. They should have some muscle-building material in addition to the corn, so as to get a proper mixture of lean and fat meat. Oilmeal, shorts and tankage are very good to add to corn, and wheat may well form part of the feed, especially this year, when there is so much field-damaged grain on hand.

Select hogs that combine as many as possible of the good points of bacon and lard breeds, so that there will be reasonably good sides as well as hams and shoulders when the carcasses are cut up. Keep the animals selected growing rapidly, but do not let them get too fat, in order to get the most desirable hams and bacon cuts, even though this method does not bring as much lard.

One or two hogs may be killed whenever meat is wanted for immediate use, but the main supply for the year should not be killed until late in December. Before that time there is too much danger from the warm weather which causes so much loss of meat every year. Watch the weather forecast and make special provision if you know a warm spell is coming.

Kill more hogs than you need for your own use so that you will have some country-cured meat to sell. Many people will buy it in preference to anything else, especially if you establish a reputation in this line. If you live in Missouri, be sure to exhibit at the Ham and Bacon Show at Columbia, Farmers' Week.

Study the weather forecast and plan to butcher at the beginning of a cold spell. Remove the leaf fat while the carcass is warm in order that the meat may chill quicker. You cannot possibly cut the meat into neat, shapely pieces while it is still warm, so let the carcass hang for the night where it will cool thoroughly, but not freeze.

Remove the head at the first joint, cut the ribs very close, and take out the backbone. The man who has had a little experience can do this entirely with a knife by cutting where the rib joins the backbone. If the cutting is done with an ax or cleaver, splinters of bone are likely to get into the sausage meat. In removing the spare ribs, keep the knife against the rib bone all the time, so as to leave the surface of the bacon in better shape. Leave the cartilage ends of the ribs in the bacon.

Cut the hams through the joint square with the carcass, and leave them shapely and uniform. Remove all excess fat for lard, and expose plenty of lean meat to the action of the brine or dry mixture used in curing. Skin very fat hams after they have been closely trimmed, leaving the skin only around the shank. Cut off the foot at the hock joint. Take off the shoulder just back of the blade and trim it into a square, blocky piece. If you want much sausage make a small picnic shoulder of the lower half, and work up the upper half for sausage and lard.

Specimen of nicely trimmed ham with a nice display of lean meat.

The whole side may be cured, but it is better to take out the loins and use them fresh, fry them down in lard, or make sausage of them. Render the back fat into lard, and trim the rest of the side for bacon. The cheeks or jowls may be cured as bacon, or used for sausage or lard.

If the weather is mild, and the loins can be sold or used fresh, split the carcass while warm. After the half carcasses are well chilled cut off the hams, and separate the shoulder from the side by cutting through between the third and fourth ribs. In cutting the neck bone, including three ribs from the shoulder, keep the knife close to the bone, so as to leave a well-shaped shoulder. With the ham and shoulder removed, the side should be cut so as to separate the loin piece from the bacon. Saw through the ribs two or three inches from the backbone, finish with the knife. Trim off the back fat from the loin, which now is ready to be used for loin roast or for pork chops. Remove the sparerib from the lower part of the side which is to be trimmed up for bacon.

As soon as the carcass has been properly chilled and cut up, it is ready for curing. Rub each piece with salt, sprinkle a layer of salt in the bottom of a good, tight barrel, and over each layer of meat as it is packed in tightly. When the barrel is full, cover the meat with a board and weight it down with a stone so that none of the pieces can float with any part of the surface exposed to the air where it is likely to mould.

Make the brine by dissolving eight pounds of salt and two pounds of sugar in four gallons hot water. This will treat a hundred pounds of meat, and should be poured down the side of the barrel until the meat is thoroughly covered. Four or five days after the brine is put on, the meat should be repacked in another barrel in reverse order so that the pieces which were at the bottom will be on top in the second barrel. Brine should be poured on as before, and the transfer to another barrel repeated in about five days, and this time it should be allowed to remain in the brine about a day and a half for each pound contained in the larger pieces of meat in the barrel, that is, a fifteen pound piece of meat should stay in the brine about twenty-two and a half days, then it should be washed in warm water and hung up for smoking just as in the case of dry-cured meat. It should be smoked with hickory, oak, apple or any other wood except that belonging to the pine family until it suits the taste of the user. About twenty-five smudges make a good, mild smoke.

Many prefer not to use saltpetre or borax, and they should be used in small quantities if at all, for both tend to harden the lean meat, and saltpetre gives it a bright red color. Not more

than an ounce should be used with each pound of salt. Borax helps to keep off the skippers, but this may be done by proper sacking. If used, it should be sprinkled lightly over the lean surface at the beginning of the curing or just after smoking, but not more than a tablespoonful should be used for a large ham.

Plain syrup, sorghum, or honey may be rubbed on the meat after either the dry salt or brine cure has been completed, and pepper may be added if desired. After it is carefully sacked so

Thin, closely trimmed bacon has an attractive appearance with a consequent active demand

that the flies cannot possibly get in, it should be hung in a dry, airy place until needed.

BUTCHERING NOTES

Butcher hogs at home.

Give them water but no feed for a day before killing.

Bleed the hog with an eight-inch, straight-bladed knife.

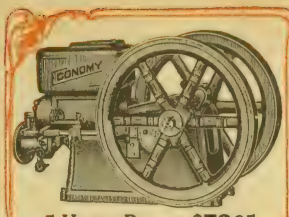
A heavy blow with an ax between the eyes will stun the animal before sticking.

The meat may spoil if the animal is excited before killing, or the weather is warm afterward.

Scrape as quickly and rapidly as possible after scalding. The cold carcass is hard to scrape well.

Keep the hog moving in the barrel. If the animal is left pressed against the barrel the hot water cannot get at that part of the carcass.

Scraping is easier if a shovelful of hardwood ashes, a lump of lime, some concentrated lye, or a handful of soft soap has been added to the water.



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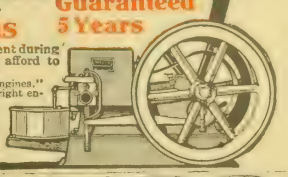

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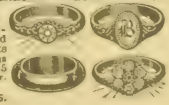

COLUMBIA NOVELTY CO.
DEPT. 24 • EAST BOSTON, MASS.

PRUNING POINTS FOR ORCHARDISTS

By Alvah H. Pulver

IN THE trimming of your apple trees there is really little work to do,—only just enough to get the main bearing limbs started in the right direction according to the variety, until they come to bearing age. Then we are up against another problem.

In trimming a tree of bearing age one must remember that every leaf the sun does not shine on some time during the day is of no benefit to that tree. It is an actual detriment. So in training a tree of bearing age, and trimming it to stimulate the growing of fruit, a person must remember where the sun rises and where it sets, and how it sails through the heavens during the day, in relation to the apple tree which he is intending to trim.

Another thing that should be remembered is that it is better to keep the fruit spurs just as near to the body of the tree as it is possible to keep them, realizing that if the tree is not thinned out above, so that the sun can shine on the leaves and on the fruit spurs at some time during the day, that they will die. The trimming of bearing trees largely influences the growth that they are making. The heavier trimming that is done during the dormant period will produce more wood growth for the following season. So if a tree is making too much wood growth there muse be devised some way to stop it. A crop of fruit on the trees is the best way to do it.

It is the practice of B. J. Case, of Sodus, N. Y., one of the best known fruit-growers of the state, to note the condition of the trees in the winter or spring. When the trees showed a large amount of fruit buds that looked healthy and good, severe trimming was ordered for that year. If the orchard had borne a crop of fruit the year previous and the fruit buds were light, very little trimming was given the trees, as under such conditions the trees would not make an extra amount of wood growth. It is the belief of Mr. Case, that in most of the older apple-bearing sections the practice has been to trim the old apple trees wrong, that is cutting off the short limbs instead of the long ones, when we have had to cut out one or the other and thus the long limbs have been forced out farther and farther until we have a circle in the center of these old trees ten or fifteen feet in diameter that does not bear any fruit at all, but the entire crop of fruit is carried out away from the body, making a great strain on the limbs where they unite to the body.

On one of the farms of Mr. Case is an old orchard set out by his father in 1853, containing 150 trees. The father took good care of the orchard until it came into the son's hands. This old orchard has always been noted for a good-bearing orchard, and has attained a very large size. The elder Case set the orchard 33 feet one way and 49½ feet the other. These trees were so large that at a distance of 33 feet the trees have needed cutting back severely to keep the limbs from interlocking. The distance when they were 49½ apart only permitted one team to be driven between the rows. The apples on these trees were borne at a long distance from the trunk and there were a lot that could not be picked with a thirty-foot ladder.

The present owner hit on the idea that a mistake was being made—that the long limbs should be cut instead of the short ones, going over all the sides and tops with that idea in mind, but always cutting the limbs by a crotch, thus turning the growth from a larger limb into a smaller one, but being careful that the smaller limb was fully one-third the size of the larger one, thereby preventing the producing of suckers.

By trimming in this way the height of the trees has been reduced, and without apparent injury to them, the diameter has been lessened from six to eight feet, or about equal to the loss in top-page. This shrinkage was not all caused in one year, about four or five years being required for it. During this time not all of the suckers were cut off from the big limbs that came out near the bodies. As these suckers commenced to grow they were spurred, or cut back to six or eight inches from the limb from which they started. They would then throw out side limbs and in three years the suckers were bearing wood. By keeping the trees pretty thin, so far as wood growth was concerned, this experimenter was able to force the bearing wood back further into the tree towards the body, so that the big limbs would be lined with small limbs that would be loaded with fruit.

But it must be remembered that these limbs on the inside of the trees will not form fruit buds or bear apples unless they are thinned out above them so that the sun can strike the leaves at some time during the day. Of course different varities of apples need different trimming. The varieties naturally grow differently and their differences in growth must be corrected, so that the trees are uniform, and have no long limbs running out beyond the others for the wind to whip off the fruit. Regardless of variety the tree should be kept symmetrical in shape. It must also be remembered that the long limbs must not be shortened any unless it can be done at a crotch, so as to turn the growth into another limb. The limb must not be stubbed off.

(Concluded on Page 20)

System of pruning followed by James A. Dicus. The story of Mr. Dicus and his grapes appeared in the October Farm News

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No experience is required in introducing this wonderful machine, because the washer itself is the best salesmen in the world—***it sells itself right on the spot.*** You do not need to stand and give a "spiel" or a lot of argument. Any housewife can see instantly what it will mean to her—can see why it works so wonderfully—can see why she must have it, and have it at once.
You risk nothing—you have nothing to lose—everything to gain. ***$1000.00 in 100 Days.*** This opportunity is placed ***free in your hands today.*** You can secure free territory—drop everything else—take this marvelous little machine and go out and

MR. T. L. SPEAKMAN
GAINESVILLE, ALA.

Mr. Speakman is one of my agents who started this work without having had any experience at all in trying to sell anything. His wonderful success simply shows how easy this machine sells to every home. I have said it sells itself. Listen: Here's the proof from Speakman's own record. One day he just went from house to house and left a machine for each housewife to try—left the machine to tell its own story. He put out 36 machines. Then he went right around and collected the cash in every single instance. Every machine absolutely sold itself. Speakman's profit $36.00. Now this same opportunity is open to you. He did not need experience. He did not have to do any talking at all. You can do as well as Speakman did. You can make this money yourself. Just get busy—NOW.

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That's what Ralph Cappa, of Florida, did the first Saturday he worked. Another one of my money-making boys, L. M. Palmer, also of Alabama, had to take back but one out of the first 108 machines he put on trial—***profit $107.00.*** Can you beat that kind of a seller? Do you want this money for yourself? ***Do you want to make $3600.00 this year?*** Well, here's your chance—the chance you have been waiting for—the chance to make big money—the chance to be independent, to be in business for yourself, to get your start—here's the main chance. ***GET BUSY—START RIGHT NOW.*** Get in and win $1000.00.

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Nothing stands in your way. You can do what others are doing every day. You can make this money. I am offering you this position ***free.*** I can help you as I helped G. W. Hickman, of Ga., to make $10 the first afternoon. Frank Green made $45 first three days. Mrs. L. C. Marrick made $90 first three weeks ***in spare time only.*** J. H. Goddard ***made $18 first three hours.*** No talking necessary. Just show the machine—any one can do that—you get the order right on the spot.

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Learn how R. W. Kirshner, of Nebraska, ***made $6 the first hour and a half.*** Eugene Clement, of New York, made ***$7 his first hour and a half,*** Wm. C. Fox, of Oklahoma, made $14 first evening in two hours—wired big order for rush shipment. ***He is only 14 years old,*** goes to school and works in spare time evenings and Saturdays.

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There is not a power family machine that will do this amount of work in three times thirty-three minutes.

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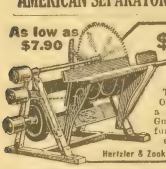

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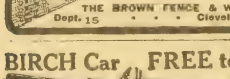

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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Principles of Cream Separation

And Other Matters Which Make Profitable Dairying Possible

By John Underwood

IT APPEARS that there are many who do not understand the manner in which cream is separated from milk by means of the separator. This question is often asked. "Why do my cream tests vary? I have not changed the cream screw of my separator, and yet there is a difference of 4 or 5 percent of fat in the quality of my cream."

Recently a friend of mine said to me that he and his neighbor used the same separator and yet his cream contained a different percentage of fat than that of his neighbor. I told him why this was so. This lack of understanding the principles of cream separation often causes suspicion between the patron and the cream buyer or creamery manager. It would be an easy matter to have cream test the same percentage of fat from day to day if the milk did not vary, and if the separator were always turned at the same speed.

SOPHIE 19th OF HOOD FARM
World's Champion Long-Distance Dairy Cow. See her record on page 26

Suppose the cream screw is set so that one-tenth runs out of the cream spout. Then 400 pounds of milk testing 5 percent of fat would yield 40 pounds of cream testing 50 percent of fat, provided, of course, that all the fat was removed from the skimmilk. Now if the same quantity of milk tested only 4 per cent, and the same separator were used, the operator would get 40 pounds of cream, but it would test only 40 percent of fat.

The speed at which the separator is run also has a great influence on the flow of the cream. It would be very easy, with the above-named quantity of milk, and with the cream screw so adjusted as to allow 10 percent to run through the cream spout, to make a difference in the amount of cream to the extent of ten pounds. That is, one might get 35 or 45 pounds. In either case the cream would contain the same total amount of fat, but the percentage would be higher in the 35 pounds than in the 45 pounds.

This is self-evident. The 35 pounds of cream would test close to 56 percent of fat, while the 45 pounds would test a trifle less than 44.5 percent. Here is a difference of over 12 percent, yet the total amount of fat would be equal in both cases. Then, too, by allowing milk to flow into the bowl before the right speed is attained a greater volume of cream would be secured, and, of course, it would have a lower percentage of fat.

By increasing the speed higher than necessary, a smaller volume of cream is obtained which contains a higher percent of fat. I never care what my cream tests. I go by the total amount of fat it contains. If people would keep a record of the amount of milk they get they would find very little difference in the total quantity of fat from day to day, provided good care was taken of the cream separator. Of course an unwashed separator bowl that has stood over night, is not in condition to do good work the following morning. If the bowl is thoroughly washed every time the machine has been used, the effort will be well repaid in getting a closer skim, to say nothing of the superior quality of cream obtained.

WATERING COWS IN WINTER

Dairy cows should never be turned out in very cold weather and forced to go to a pond or creek for water. This practice is a costly one. The extra feed required to counteract the effect of the chill would soon pay for getting a supply of good water in the barn.

When cows are turned out on cold days, often having to drink from a hole cut through the ice, they will not drink all they need, but only enough to satisfy the immediate thirst. The exceptionally cold water, and the even colder atmosphere, chills them to the bone, and they will hurry back to the barn. Often they will not go near the water without being driven. The practice not only is cruel, but it is expensive.

If a production record was kept, it would be found that every time the cows were turned out in the cold the yield of the milk would be reduced materially. This for two reasons: First, because best results could not be obtained when the animal did not get a sufficient quantity of water, and second, because of the shock and chill to the system. Diminish the allowance of food, and the production of milk is of course decreased. Enough water is just as necessary as a sufficient amount of food. It requires a certain amount of food to maintain the heat of the body.

Naturally the colder the barn, or the colder the animal is kept, the more food will be required to keep her warm. A great saving along this line will be effected if arrangements are made so the cows can be watered without their having to go out into the cold after it. A well in the barn is a good thing. A little work, and the expense of a few dollars for pipe and pump, will put a well in most barns, especially in winter when the water level is higher than in summer.

CLEANING THE CHURN

If proper care is not exercised in keeping the churn sweet and clean, the butter will be tainted, no matter how well the milk and cream have been cared for before churning begins. A small brush is a convenient article to use about the churn, as it is somewhat difficult to clean the corners and joints with a cloth, and it is these that hold particles of milk and cream, and make breeding places for microbes.

On our farm we have a good supply of boiling water ready to use just as soon as the churning is finished, and immmediately remove the milk and butter from the churn. By doing this the churn is much easier to clean. Cold water is used first to wash off the milk adhering to the sides, and then the boiling water is used freely, and in such a way that it will reach the corners and crevices. The inside of the churn is thoroughly scrubbed once a week with a strong hot suds, and then rinsed with two hot waters, with a little sal soda in the second.

After the churn is scalded it is placed in the shade first, then in the sun, for if it is set in the sun while wet the wood is likely to be warped. Washing through warm water is not sufficient cleaning for brushes or cloths used about the churn. They need to be boiled frequently, not only for better cleaning, but for destroying any germs which may have been washed away from the seams of the pans, cans or corners of the churn, and both the churn and cloths or brushes need frequent sunnings and airings to keep them sweet.

PROFITABLENESS OF OLD COWS

If a cow has been rightly fed all her life, she will be a good cow when she becomes old. A cow that has been overfed for years will have become "burned out" by the time she is ten or twelve years of age. The cow that has never been fed to bring her up to her highest capacity for milk-giving will have fixed her habits of milk production at a low point, and will not be valuable as an old cow. She will therefore have to be disposed of to the butcher several years before she would otherwise have gone out of service.

There are a large number of old cows that will increase their capacity for milk-giving if fed on a properly balanced ration, and with a large amount of succulent food the year round. This is what develops the capacity of the cow. A great many cows are never fed with the idea of getting out of them the greatest amount of milk possible each year, with due regard to the health of the cows. If, however, the old cows were fed with this idea in mind, they would continue to give a large mess of rich milk.

Silage is the greatest help in the right feeding of cows, for it is a food product that is easy on the digestive organs of the animals, and by its use they can have succulent food the year round.

CHANGE

Quit Coffee and Got Well

A woman's coffee experience is interesting. "For two weeks at a time I have taken no food but skim milk, for solid food would ferment and cause such distress that I could hardly breathe at times, also excruciating pain and heart palpitation and all the time I was so nervous and restless.

"From childhood up I had been a coffee and tea drinker and for the past 20 years I had been trying different physicians but could get only temporary relief. Then I read an article telling how some one had been helped by leaving off coffee and drinking Postum and it seemed so pleasant just to read about good health I decided to try Postum.

"I made the change from coffee to Postum and there is such a difference in me that I don't feel like the same person. We all found Postum delicious and like it better than coffee. My health now is wonderfully good.

"As soon as I made the shift to Postum I got better and now my troubles are gone. I am fleshy, my food assimilates, the pressure in the chest and palpitation are all gone, my bowels are regular, have no more stomach trouble and my headaches are gone. Remember I did not use medicines at all—just left off coffee and used Postum steadily." Name given by Postum Co., Battle Creek, Mich.

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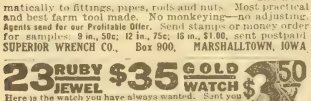

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Advance Garden Preparations

Taking Time by the Forelock During the Dull Season

By Charles H. Chesley

IT IS well to pause at this season and take into account the successes and failures of the year. In connection with the garden, we should be able to profit by the mistakes and endeavor to guard against the same things occurring in the future. As in all farm work, we keep certain accounts, so we are able to tell what our garden has cost us, and what profits we have received during the year. Last summer was particularly trying in many sections of the country, and our state was no exception, hence the profits of the gorden would total up rather small, were it not for the fact that we had fresh vegetables for the home table every day after the first of June, and at the time this is written have a lot stored for winter use, as well as for sale. It is in this way that the farmer's garden is of the greatest benefit.

If he were to buy all the things used from it during the year, he would find that it would require a respectable sum to pay the bill. It is a good time, as the old year draws to a close, to plan for a bigger and better garden next year. Make the plans now while the successes and failures are fresh in mind.

GREEN THINGS IN WINTER

For the family who has no greenhouse, it is quite a treat to have lettuce, parsley, and radishes in midwinter, yet it is quite possible. The cellar windows that have a southern exposure furnish ample space for growing these things. First put in double windows, then make narrow boxes to fit. In the boxes set plants of parsley, lettuce, chives (if something of an onion flavor is desired) and mint. The plants will live and grow to some extent in the ordinary cellar, and to bring them into abundant growth, remove to the kitchen window as needed. Windows in the furnace room are excellent places to grow these plants, and there will be sufficient heat without rounding them off upstairs. Lettuce and chives for salads, parsley for garnishing, and mint for sauce, are winter luxuries that all may enjoy with a small outlay of time.

Radish seeds sown in cellar window boxes will sprout quickly and make a rapid growth, especially if the boxes are removed to the living room window after two or three weeks. Lettuce seed sown in December will make a good growth, and be ready for use during the latter part of the winter.

GET THE CATALOGS

The true gardener gets a lot of pleasure by reading the catalogs of seedsmen and nurserymen. During the long winter evenings we spend hours looking over the descriptions of old friends in the realm of vegetables and small fruits, as well as reading up on the newer things. The bulk of our own seed order usually goes to a seed house that has been found reliable and satisfactory for many years, yet we frequently order a few things from several other houses, for this reason we get a number of catalogs and peruse them carefully.

Firms that advertise in reliable farm papers can be trusted to do as they agree. For our own part we prefer to purchase from the man who makes no extravagant claims for his varieties. It is not the highest-colored pictures that are the surest indication of value. Indeed it is often the smaller grower, who issues a plain catalog, who can supply the best seeds for a given locality.

The question of latitude ought to be taken into consideration by seed buyers. This is not true of all seeds, for some kinds can be produced only in certain parts of the world. Of course such seeds would be suitable for any part of the world where the particular vegetable can be raised. On the other hand there are some things that grow and produce seed north and south, east and west. Seeds of such vegetables, grown in a warm climate, are not so good for a cold climate as those produced farther north.

BUILDING THE HOTBED

When it is time to start the hotbed after midwinter, the ground is usually frozen, and it is hard work to get the pit ready to receive the frame and sash. It is, therefore, much better to have the bed all ready, and this should be attended to before the snow comes on. At this season garden and farm activities are usually almost at a standstill, hence December is the proper time to build the hotbed. Of course every gardener realizes the advantages of having a bed for starting early plants.

The first thing to do is to select a suitable spot. This should be in well-drained soil, where there is no possibility that surplus water can do damage. It should also have a southern exposure and be located in the direct sunshine. No shady place will do. There should be some protection on the north side of the bed. The location may be on the south side of a building, or in the backyard where there is a tight board fence to ward off the cold winds.

Having selected the spot, the pit should be dug something like thirty inches deep if the ground is level. If there is a considerable slope two feet

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deep will be sufficient. Get the frames to be used and build a box in the pit exactly the size the sash will cover. The bottom should be level, but the frame should extend several inches higher at the top or back end than it does in front. The frame may also extend above the surface of the ground, and the outside must be well banked with earth.

When the hotbed is built, all but putting on the sash, it should be covered with boards to keep out the snow, and left until such time as it is desirable to put in the fermenting manure and soil.

STORING SQUASHES AND PUMPKINS

The squash is one of the best winter vegetables, and the pumpkin, in some respects, is not far behind. Both may be kept in perfect condition until spring. Indeed we have had both as late as midsummer the year following their growth. A dry air and high temperature are the requirements for keeping the vegetables. An attic, or unused room, where they can be placed close to a warm chimney, will keep them in perfect condition.

For storing, specimens should be selected that are free from bruises and were well ripened on the vines. Stems should not be removed. Place them on shelves in any warm dry room, and do not pile them more than two deep. A temperature as high as 75 degrees will keep the squashes and pumpkins better than will 55. The room should never go lower the latter figure for best results. We have found that shelves near the chimney in an upper room have proven satisfactory. If a fire is kept burning all the time, and the chimney remains warm all night, so much the better. In case of excessive cold the vegetables may be covered for a short time.

Some store in the furnace room in the basement, and have found this method satisfactory. Certain it is that the higher the surrounding temperature runs the harder the skins of the vegetables become, and the longer they will keep. Never store them in an unheated cellar or basement. Moisture and low temperature will destroy them in a few weeks.

PROPAGATING THE GRAPE

If there is an especially good grape vine near at hand, from which cuttings may be taken, now is the time to get them. Select new wood that shows two or three vigorous buds, making the top and bottom cuts clean and slanting. Bury the cuttings in sand in the cellar, and in the spring set them in a row in the garden, giving clean cultivation for a year, or perhaps two, after which the young vines are ready to be set in their permanent places. It is an easy matter to propagate a vineyard in a few years if one or two vines are available for parent stock.

The grape is one of the most useful, and at the same time delicious, of our small fruits, and should be generally grown in the small fruit garden.

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Girls, if you want 2 of the cutest dolls you ever saw send for this doll family. Louise is over 2 ft. tall, very like a real youngster in size. She can wear a real baby's clothes. She will sit or stand. Brother Jimmie is a husky fellow and you will be delighted with both of these dollies. Made of cloth, cannot be broken.

We want to give this doll family to a little girl or boy in each home. The only condition is that you send us 25 cents to pay for one yearly subscription to our famous monthly magazine.. DOLL EDITOR, The FAMILY, Springfield, Ohio

Getting Eggs in Winter

And Advance Preparations For Early Breeding and Hatching

By T. Z. Richey

GETTING eggs in winter depends in a large measure on the stock one has, but in a still larger measure on the manner in which the hens are fed and handled.

In handling my flocks I always keep the pullets and old hens in separate yards. For the reason that they are yet immature and undeveloped, pullets require food of a more concentrated character than that required by old hens. The kind of food required to keep a pullet in good laying order, would, in a very short time, bring the old hens down with fat. My regular laying mash and the one always supplied to mature fowls is made of the following ingredients: Two parts bran, one part each cut clover, ground oats, cornmeal, middlings and beef-scrap. In feeding pullets that have just begun to lay, the proportion of bran in the above mash is reduced to one part, and the cornmeal and beef-scrap increased to two, and one-and-one-half parts respectively. This mash is kept before the pullets all the time, in self-feeding hoppers, and a moistened mash, composed of the same ingredients in the same proportion, is fed at noon. It is perfectly safe to feed the pullets all they will eat.

The pullets and hens are kept in separate flocks for another reason: If kept in the same flock, the hens would fight the pullets, keeping them in a constant state of fear, which would be detrimental to the best egg-production.

In feeding for winter eggs I give both hens and pullets all they will eat of the rations given above. Old hens certainly do get too fat to lay when fed entirely on such concentrates as corn, wheat and oats, but when fed a bulky ration, the danger of getting the hens too fat to lay is not great. In feeding, I am particular to see that both hens and pullets consume as much of the mash mixture as they do of the whole grain. If they do not, I reduce the quantity of whole grain fed.

In handling poultry for winter eggs I find that exercise is essential. The hens and pullets are made to exercise in deep litter for a part of their grain ration. The first food of the day is grain scattered in deep litter. Many recommend the feeding of the moist mash, as the first food of the day, arguing, that since the fowls' crops are empty, they require a food that is quickly digested and assimilated. My experience is that when the moist mash is fed early in the morning, the hens become lazy and will not work in the litter with the vim and vigor that they would if dependent upon the grain in the litter and the dry mash alone. The scratch-grain is composed of equal parts of cracked corn and wheat. Formerly I fed oats, but on account of the hulls, which caused impacted crops, I now feed ground oats (with the hulls sifted out) in the mash. Cracked corn is fed, not because it is a better food than whole corn, but simply because it increases the number of grain articles, thus increasing the efforts of the hens in filling their crops. Green food is fed during the afternoon, and half an hour before dusk the hens are given all they will consume of equal parts of wheat and whole corn.

The idea in feeding for winter eggs is to keep the hen a trifle hungry during the earlier part of the day, and to never fill her to repletion until just before bedtime.

Pen of Prize-Winning White Plymouth Rocks

HENS FOR BREEDERS

The old hens I use for breeders are selected early in the winter months and penned to themselves. In selecting hens for breeders, the first point I consider is vigor. A hen that does not show an appearance of vigor is rejected, no matter how many fancy points she scores.

The old hens are fed a maintenance ration—that is, a ration that will keep them well-nourished, without unduly stimulating egg-production. My experience is that a hen that lays well all winter is unfit for the breeding pen. Her eggs will not usually run high in fertility, and the chicks that hatch will not be strong. The reason for this is that heavy egg-production is weakening, and that the hen cannot impart to her offspring a strong, vigorous constitution, when she herself is in a weakened condition.

A month before eggs are wanted for hatching, I gradually work the hens back to a laying ration. Beef-scrap is added to the mash, and the ration is made less bulky in character. My experience is that when these hens do commence laying, they lay much better than the ones that laid well all winter. And they are much less likely to go broody at the time when eggs are especially wanted for breeding.

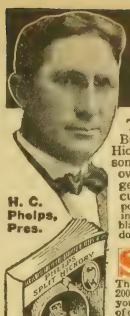
DUCKS IN WINTER

Ducks at all times, require a bulky ration. They have no crop like chickens, the food passing directly to the gizzard. The food when it reaches the gizzard must be in a soft state. For this reason the feeding of much whole grain will prove injurious to ducks. A good winter ration for ducks is the following: Equal parts of wheat bran, cornmeal and green food, five percent beef-scrap and five percent sand. The mash for ducks must be made thin and sloppy. Any kind of green food will do—cabbage, potatoes, turnips, beets, etc. Lacking a supply of these, cut clover or cut alfalfa, steamed and mixed with the mash, will do as well. Ducks should be fed three times a day. As the breeding season approaches, the quantity of cornmeal and beef-scrap in the ration should be doubled.

Ducks require little in the way of housing. A shed, open toward the south, but with north, east and west sides closed, is all that is required. The only part of the duck that is sensitive to cold is its feet. In order to protect its feet from freezing weather, the floor of the shed should be well bedded with straw. The litter in duck pens soon becomes damp and filthy and should be renewed frequently. If allowed to sleep on damp litter or in damp quarters, ducks will likely contract rheumatism. Ducks may be permitted to range about the place except when the ground is covered with snow.

Cinnamon rolls, containing raisins and currants, satisfy the natural craving for sweets, and are better for children than cake.

Russian bread, made by adding eggs, a little sugar, shortening, raisins, currants and nuts, if desired, to common bread dough, is excellent for sandwiches.



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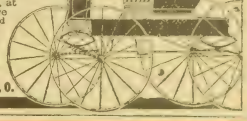

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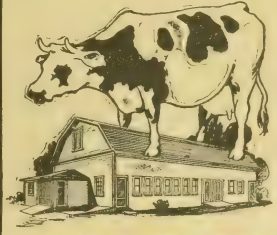

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Full Rules of the Music-Titles-Picturegame and oth particula will be sent to you promptly, free on request. Simpl send us your name and address saying you want inform tion about the Music-Titles-Picturegame.

The Music-Titles-Picturegame Consists of sixty pictur You are asked look at each picture and give it a name. The best titl will be selected by an impartial Committee of Judg from among all the titles submitted by you and oth contestants. If you see what is in the picture (it's n a puzzle, but just an illustration, as you can see by th specimens on next page) and then put into words th which you see, as "The Swan," "Face to Face," "Garden Roses," etc., why should not your title be the best? Th same must be done for the sixty pictures. (You can sub mit up to five answers (titles) for each picture.)

The Titles for the Pictures need only be chosen fro a list of titles in the off ial catalogue. The titles are titles of songs. They a all there. Simply pick out the titles, in the list, whic fit the pictures most appropriately. Don't you thin that playing the Music-Titles-Picturegame will be grea sport? Every member of the family may participate.

Five Thousand Dollars In Cash
FOR SOLVING SIXTY PICTURES

No Canvassing=No Soliciting=Open to Men and Women, Boys and Girls

Begin Today---Right Now---and Play the Music-Titles-Picturegame of The FAMILY Magazine BUT OPEN TO ALL READERS OF FARM NEWS

CONSIDER the four sample pictures shown and the extracts from the Catalogue. **You ask yourself** what you see in the picture. Take the first one. You see two women sewing. One of them is saying, "There are a lot of silver threads, mixed with the gold ones." If the extracts from the Catalogue shown here were all you had, you would find under "S" only the title "Silver Threads among the Gold." It is very simple and easy to find titles in the Catalogue that are suitable to the pictures.

In the case of the second picture, you find the title "Old Folks at Home;" for the third picture you find the title "Asleep in the Deep," and for the last picture, well, let's see just what you would do. "Home" suggests itself at once. You look under "H," in the actual Catalogue (containing about 4,000 titles) and you find "Home, Sweet Home." Isn't that a splendid title for the picture?

The sample pictures are easy, you may think. We meant this illustration to be simple, so you would see the main steps of the pleasant pastime. The 60 pictures that you receive to work out for the $5,000.00 in cash prizes will in some instances appear harder than these sample pictures. But you must now realize that even the hard pictures will only seem hard; in reality they too will be easy, for you surely will see something or it wouldn't be a picture. All you have to do is to look up that which you see, in the alphabetical Catalogue list.

You don't have to know Song or Music Titles. The Catalogue will show you the Titles. Even in cases where you immediately think of a very well-known title, as perhaps in the instance of some of the sample pictures, there may still be a better title --or one just as good -in the catalogue. And, in any event, you must make sure that the title you have in mind is in the Catalogue and is therefore an eligible answer. So if you do not wish to merely to "chance it," but earnestly desire to earn a prize, you will of course take advantage of the necessary value of the Catalogue to contestants, and consult the Catalogue.

The Music - Titles - Picturegame Outfit includes (1) Picture Pamphlet containing 60 pictures, (2) Catalogue, and (3) Reply Book. The pictures will at once interest you; and you will study them in order to solve them. You will find the answers to the pictures (the titles) in the Catalogue. You will enter your answers in the neat Reply Book. When you are ready you will send in your Reply Book, and you should hope to win a portion of the $5,000 in cash which are offered as rewards. **Obtain the outfit quickly.**

Abide With Me	Dublin Bay	Last Rose of Summer
Alamo Rag	Erminie	Navajo
Alexander's Ragtime Band	Face to Face	Old Oaken Bucket
Asleep in the Deep	Farewell, The	Old Folks at Home
Baby Mine	Garden of Roses	Palms, The
Barn Dance	Glow Worm	Robin Hood
Calm as the Night	Home, Sweet Home	Silver Threads Among the Gold
Calvary	I Love You Truly	Turket Trot
Dearie	Jolly Sisters	Waiting at the Church
Dixie	Kentucky Babe	

APPLICATION AND ORDERING COUPON

FARM NEWS, Dept. 7, Springfield, Ohio.

Please send me full information about the Music-Titles-Picturegame, including the Rules. (I hereby enter the Music-Titles-Picturegame and enclose $1.00 to pay for five year's subscription to FAMILY Magazine, as noted on separate sheet of paper which I also enclose; and you may send the Music-Titles-Picturegame Outfit to me at once.)

Name .....

Full Postal Address .....

.....

NOTE—Cut out or copy this Coupon. If you are accepting subscription offer, give names of subscribers on separate sheet of paper, and enclose one dollar. Send to FARM NEWS.

Read These Interesting Facts About the Game

The Music-Titles-Picturegame is not a Subscription Contest.

The Music-Titles-Picturegame is an enjoyable home pastime, wherein you can win a large sum of money by using your own intelligence —in supplying the best titles (out of a list set before you) for sixty pictures.

Instead of Laboring to canvass, sell, collect, solicit or do any such work for us, or anyone else, and then perhaps fail to get the grand reward by reason of the fact that some experienced agent has beaten you enormously in whatever the task may be—behold that in THIS competition, in the Music-Titles-Picturegame, the rewards are entirely within the control of the contestants because the decisions will be made on the merit of the titles submitted for the pictures; and all you have to do is to supply the most applicable names, in the Catalogue (containing all the eligible answers) for the sixty pictures.

We Should Like to Start You On the road to fortune (the result being in your own control) by sending you at once the Official Catalogue, containing all the eligible answers, as well as the Authorized Reply Book, in which you can conveniently enter your own answers (up to five for each of the sixty pictures) and, of course, the splendid Picture Pamphlet containing the sixty pictures themselves. The Rules are included. You cannot be more completely equipped. All this material constitutes what we call the Music-Titles-Picturegame Outfit. Read below (to left) how you may obtain the outfit and begin to play the Music-Titles-Picturegame.

Use the Coupon in the lower corner of this page. You will receive full information about the game free. You may cross out the portion in parentheses () relating to the Music-Titles-Picturegame Outfit, if you do not follow the instructions given for obtaining the Outfit, but simply wish to obtain all the details and then decide. In any event, you will want to get "on the job" of solving the pictures right away; you should write now.

Fifteen Minutes now and then will suffice for the enjoyable process of looking over the pictures and picking out suitable titles from the Catalogue. The first reward is fifteen hundred dollars.

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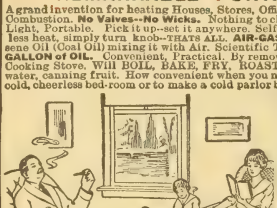

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HORSERADISH

Horseradish should be grown in every garden for home use, and market growers will find it profitable to handle as a cash crop to realize on during the winter. Successful growers have found the following methods approved: Roots may be set either in the spring or fall, altho the spring is best, for the reason that the winter freezing of the ground sometimes causes the roots to heave. Roots for setting should be of uniform length, and set in hills as far apart as one would ordinarily plant corn. The plant does not produce seed, therefore propagation from roots is necessary. In setting be sure the roots are put in the ground right side up, else the harvest in the fall will be unsatisfactory.

A deep rich soil is best, but the plant will grow almost anywhere. It is a native of southern Europe; growing in bogs, swamps and along seashores. Land for setting the roots in the spring should be plowed during the fall or winter, and be given a coat of barnyard manure. Roots of the Bohemian variety grow quickly and are ready to take up in the fall. The comt on variety grows larger and is best if left until spring for the roots seem to increase in size during the winter. Enough for winter use should be taken up and stored in the cellar in sand.

Horseradish is a profitable crop to grow if one can prepare the grated article and sell it to retail customers. In this way the entire profits remain with the grower. The preparing and bottling may be done during the winter when outside work is at a standstill.

FERTILIZING THE ASPARAGUS BED

The asparagus plant is a heavy feeder, and requires a lot of available food. Continuous effort in sending up the shoots during the cutting season weakens the roots, and causes them to use a lot of nourishment in getting back their vitality.

Barnyard manure, applied in early summer after the crop has been harvested, and again just before the coldest weather comes on, is highly satisfactory for the home garden bed. Salt is sometimes applied, but this has no real fertilizing value. Commercial growers often put the manure on in the fall, and use a commercial fertilizer during the spring growing season, and also after the crop has been harvested. The North Carolina experiment station has recommended the f llowing as a complete fertilizer that may be applied at any time: 250 pounds nitrate of soda, 400 pounds acid phosphate and 160 pounds muriate of potash. It is important that the soil contain plenty of quickly available plant-food that will induce early and abundant growth. The barnyard manure is useful in supplying humus, and in connection with the above fertilizer is sure to produce satisfactory results.

Asparagus can be grown without manure if plenty of the commercial fertilizer is used, as it has been found that humus can, if necessary, be dispensed with, although the soil does not retain its soft and workable characteristics in the same degree.

A few dried raisins, figs, and dates stuffed with nuts are pleasant surprises when found in the school lunch.

DO your hens look like this? Do they cough or sneeze? Have they swell heads or running eyes? Is their breath strong? Have your hens stopped laying? Are you you getting plenty of eggs?

If your hens look like this or if you aren't getting eggs right now, you need my help. My free book tells how easy and simple it is to cure poultry diseases which, before my book was written, cost the poultry raiser thousands upon thousands of dollars every year. Send for my free book — send for it today.

It tells you how to cure Roup. This plague is killing thousands of Money-Making hens. It tells you how to make layers out of loafers. It tells the kind of feed to use and how much water each hen needs. It is brimful of money making ideas, which you can turn into actual poultry profits. You need my book. Write for it today—write now.

Why Hens Stop Laying

I am the Poultry Expert

Mr. Reefer, whose photo appears above is a Poultry Expert in whom the subscribers of this paper should have **confidence.** He **knows** and he can teach **you** in a few simple words ***how to make real money*** with your hens.

Last year a hundred thousand people wrote to him for his advice and his book. He has helped them out of their poultry trouble. He showed them how easy and simple it was to make money with their chickens. Mr. Reefer says:

"Thousands upon thousands of folks realize **now** the enormous profits that can be made by just a few hens. My book will help you. It will help you towards independence and prosperity. Send for my Free Book today—don't delay. Learn how to make money—lots of money out of your chickens. Anyone who reads my free book can do it!"

I want to send you—**ABSOLUTELY FREE**—my book which has revolutionized the poultry business. I call it **"Poultry Dollars and How to Get Them."** This book contains scientific facts which show the every-day poultry raiser who has chickens in the back yard and on the farm, how to make the ordinary barnyard hen produce 200 eggs a year. It is chock full of common-sense facts which I have gathered after years of hard work and experimenting. Think of getting 200 eggs a year from each hen!

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Egg prices go up every winter. You can take advantage of them. There are many egg dollars that will be yours ***if your hens will lay.*** Meat prices are going up. That means a big demand for eggs. And when there is a big demand, prices go up—up—up. Right now is the time to get eggs. ***My free book tells you how.*** It tells what to feed, how often to feed, how much grit to give and how much charcoal. Write for my book today. It's free and means money to you.

Write For *Free* Book

It contains letters from foremost agricultural colleges in America and many illustrations in colors that will interest and delight you. It tells all about feeding and housing and shows how easy it is to prevent and cure diseases. **Send today for this great book.** Don't wait. The book is Free to anyone interested in raising chickens. Cut off the coupon and mail it ***now.*** Even a postal will do. Only do it ***right now*** — before all the books are gone.

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Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

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FARM NEWS, Dept. S 16, SPRINGFIELD, OHIO

Pruning Points For Orchardists

(Continued from Page 8)

The proper tools for trimming are an important requisite. While the trees are young about the only tool needed is a small pair of hand shears. There are a good many makes of hand pruning-shears, but the best results can be obtained with the shears that are heavy and strong at the point where the knife and guard are fastened with a bolt, as this is almost always the weak part of the shears. Another point is to select the shears on which the hand has the strongest leverage—that is the shears on which the hand will naturally stay the furthest from the fulcrum, or bolt, where the shears turn, and the shortest between the fulcrum and where the limb would actually be cut. At the same time it is also wise to pick out shears for each man that fits his hand best. If the limbs are pretty large to cut with these shears, the next tool of importance is the hand saw.

There are a great many styles of hand saws on the market, but the one favored by many growers is a thin saw, the teeth of which are no wider than seven or eight to the inch. Some growers like a double-edged saw, having on one side small teeth for the smaller limbs, and coarse ones on the other side for the larger ones. The main objection to these saws is that in sawing a limb close to a crotch a person is liable to hit the other limb with the opposite teeth.

In sawing off large limbs, which sometimes has to be done, we are always careful not to let the limb, as it commences to break off, strip a piece of the bark from the under side of the stub. This is easy to avoid by sawing on the under side of the limb first, and then sawing from the top so as to meet it, or, if the limb is not too heavy, it can be held with the other hand so that it does not bear down much.

The hand saw is considered the best tool to use when one can get to the work to be done, but on some of the old big trees it is difficult to get out to the end of the limbs that ought ot be cut off. In order to do this trimming more economically on the old trees, a long-handled saw, built somewhat like a meat saw, with an iron frame is recommended. With this kind of saw there are extra blades, which make its use cheaper than filing the saw.

Another good tool is the long-handled pruning-shears. This is used to great advantage from the ground on the end of the long limbs, where it is almost impossible to reach the spot with a hand saw, and the limbs are not stiff enough so we can use the long-handled saw. A handle of ten to fifteen feet in length is usually put in such shears, so that a man can stand on the ground and reach up eighteen or twenty feet, and take off such small limbs as should be removed. It is always poor economy to work with poor tools. Dull shears or saws, or inferior equipment, will inevitably prove a waste of time and money. Good tools are steadily advertised in the leading agricultural papers, and the orchardist does himself a gross injustice who does not make the necessary outlay to properly take care of the work. The extra care required to keep the trimming tools in good working condition will return a premium

FARM NEWS

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Matthew C. Young, President

Entered at the Springfield, Ohio, Post Office as second-class mail matter. The subscription price of Farm News is 25 cents for one year; three years for 50 cents. Subscribers desiring change of address should give old address as well as new one.

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The estimated consumption of milk in the ice-cream industry reaches the enormous amount of 210,000,000 gallons a year. And, the demand still continues to increase.

DAIRYING AND SOIL FERTILITY

Not long ago a dairyman, who has had a number of years of experience in the production of milk and butter from more than one hundred cows said to me, "I fmd in figuring up the profits from my business that they have come from the farm rather than from the cows. That is the fertility from the cow stables has made my farm very productive, and this productiveness has been changed into money through the crops marketed in the form of milk and butter. If the feed which my cows have consumed had been purchased I could not have realized a profit, or if I had made a profit it would have been a very small one. So it comes that the farm has made me money, and the cows were but a means by which the products of the farm were made up into a merchantable product."

The end, however, is a satisfactory one, no matter how the problem is stated. While it may be said that the profits have come from the farm, it is also true that the farm would not have been making a large profit without the cows to increase its productiveness. What is true of the farm that is devoted exclusively to dairying is true of the farm that has only a few cows. One should have not only good cows, but he ought to keep as many of them as he can well take care of. If only good cows are kept a profit from them is sure to be realized, for there is nothing surer than the good dairy cow, rightly fed and cared for. With a profit for each cow the production of manure is a clear gain.

This is not such a small matter as it may seem, for the manure put into the ground makes all the difference in the world in the production of crops. If a farm is in a rundown condition, as many good cows should be kept as possible. Nitrogenous feeds, such as alfalfa and clover, should be raised and fed to the cows instead of feeds having little nitrogen. Those who have to buy feeds ought to keep in mind the effects on the fertility of the land, and buy the feeds that will be the most productive of high-class fertilizers, other things being equal. Oilmeal, bran, clover and alfalfa are all right in the fertilizing elements, and are at the same time rich in milk-producing elements.

Dairying improves the farm most when whole milk and skimmilk are not sold off the farm, but used for the enriching of the soil, after having served in the nutrition of animals. Butter is a good thing to sell off, as it always goes at a good price, and has in it practically no manurial elements. Everybody should avoid keeping poor cows. It may be argued that a poor cow will produce as much manure as a good cow, which is true, but the profits in the manure produced are more than offset by the p or cow consuming more feed than her lacteal products will pay for.

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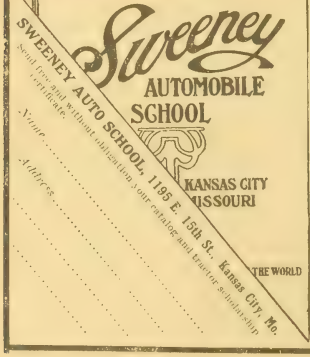

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7500—Boys' Suit—Cut in sizes 4, 6, 8, 10 and 12 years. The blouse of this suit is double breasted and the neck is finished with a permanent turnover collar, for which, however, a plain band may be substituted. The trousers are of regulation make, opening at each side seam.

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7501—Child's Dress—Cut in sizes 4, 6, 8, and 10 years. This dainty frock has a waist and skirt. The waist closes at the side of the front with an ornamental tab at the top of the closing.

7504—Ladies' Shirt-Waist—Cut in sizes 34 to 42 inches bust measure. Ideal for thin materials, this waist has considerable fullness in both front and back. Both are plain but the front has also a vest which may be used or omitted.

7494—Ladies' Dress—Cut in sizes 34 to 42 inches bust measure. In this handsome one piece model there is a removable chemisette with straight, high collar. A wide square collar trims the low neck. The skirt has five gores and the lower edge measures 2 3-8 yards.

7369—Ladies' Skirt—Cut in sizes 22 to 32 inches waist measure. This smart skirt is a two gore model but it has, in addition, two long, narrow gussets at the sides. These extend a little more than half way up the skirt from the hem.

7372—Girls' Coat—Cut in sizes 6, 8, 10, 12 and 14 years. It has front and back plain, with closing in front either buttoned closely to the top of the straight collar or a little low with wide, flat collar.

7515—Ladies' Skirt—Cut in sizes 22 to 30 inches waist measure. This model is made with three gores. It closes in front and has pocket laps standing out from the skirt at each side seam.

7363—Ladies' and Misses' Night Gown—Cut in sizes 32 to 46 inches bust measure. The neck may be made high with a small, flat collar and with or without the applied yokes which the pattern provides.

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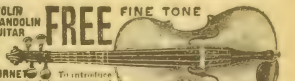

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Our Trappers' Department

NOTICE TO READERS

Mr. George J. Thiessen, the author of the series of trapping articles which will appear in this magazine, will answer all questions pertaining to traps and trapping through the columns of this magazine, or personally, if ten cents is sent to cover stenographer fees, stationery, stamps, etc. Mr. Thiessen is an authority upon the subjects he writes about, being the author of nearly a dozen books on trapping. He was special writer for the "Fur News" magazine, of New York City, formerly editor of one of the largest trapping magazines in America, and also at one time the head of the trapping department of "Red & Gun." His experience on the trap line, buying and selling furs, in charge of the consignments for a fur house known to every trapper in America—in fact his familiarity with every phase of the fur business will prove a great help to the readers of this magazine.

RULES—In order for every reader to get the most good from this feature, it will be necessary for each one to carefully observe the following: (1) Not more than five questions will be answered for any one reader each issue. (2) Be brief and clear with questions. (3) Write plainly, giving full name and address. (4) Address all letters to Editor of Trapping, Farm News, Springfield, Ohio. (5) Questions to be answered by mail should be marked "Personal," with 10 cents enclosed.

TRAPPING THE RACCOON AND OPOSSUM

By George J. Thiessen.

The raccoon and opossum are harder to take in traps than either skunk, civet cat or muskrat. The former makes its home wherever there is timber, and usually not far from water. The opossum also likes the woods, thick and filled with underbrush. In this respect the animals treated in this article are similar, although the 'coon is far more important to the fur trade, considering the value of each pelt, than the 'possum. The last-named animal, because it ranges so far south, is known as "cheap fur," for the reason that most of the skins—perhaps I should have said a large per cent of them—do not prime at all where the fur season is not cold. It might also be interesting to the trapper to know that within the last few years the pelt of the opossum has enjoyed a greater demand among manufacturers, due to the fact that it fills a demand for a serviceable fur which can be readily dyed, at a small cost.

When trapping the raccoon, use nothing smaller than the No. 1 1-2 trap. I have taken the animals in smaller sizes, but in the majority of cases the fur bearer will escape from sets made with them. Remember, also that fixed fastenings, such as stakes, are not preferable for this strong animal, and its sharp teeth have been known to sever a common pine stick to which a trap has been fastened. I would advise all trappers to fasten their sets to rocks weighing enough so that the animals when caught could not drag them off, yet light enough not to give them a straight pull.

With the opossum, it is different. Almost anything can be used for a fastening, provided it is large enough to hold any kind of an animal at all.

The raccoon, like its larger brother, the bear, seems to have an appetite which is never satisfied. It is very fond of sweets, and can be attracted by almost anything, such as corn, apples, fish, clams, honey and even jam. Both these fur bearers are susceptible to almost any good patent lure, for the reason that its sense of smell enables it to locate the scent for long distances.

Even the amateur should have no difficulty in locating the haunts of the raccoon. Its tracks resemble that of a baby, only smaller of course. When one locates the paths which the animals use in going into or leaving the water, traps may be concealed under leaves, etc., in such a way as to get results.

If half-submerged logs can be found along streams, which are hollow, and have openings at the ends large enough for 'coons to pass through, make sets at each opening. Use no bait of any kind for sets of this kind.

Find places where there are sandbars near the shore, which the animals frequent. On these, where the water is not too deep—about six or eight inches—place a small circle of traps, in the center of which should be placed some opened clams. Some make sets like

this, using crawfish or crabs for bait.

Similar sets may be made by constructing three-sided pens from rocks and drift-wood. Have the open side facing the shore, and use as a decoy a fish placed on a stick just under the water. If one has a good lure, even honey is good, place this on the rocks so that the water will not wash the scent away. This method is one of the best and always can be depended upon to produce results.

Natural places may be found also between rocks, along logs, etc. Great care ought be taken with these so that the traps are carefully concealed, everything being left natural after the sets are made. No bait of any kind ought be employed with this method, the success of which depends almost entirely upon the success in hiding the traps.

When making a set for the raccoon in water, after everything is in place, destroy the human scent by dashing water over everything touched. For land sets, gloves ought be used.

Go along the banks of a stream where there are signs of the raccoon and if the water is not too deep, dig pockets a few inches above the surface of the water. In the back part of these put some decoy, rotten fish being preferable. Guard the bait with one or more traps.

Often paths which the animals use, can be found leading into corn fields. In these traps may be set and will, if placed properly, bring good results. A set like this, however, ought not be attempted by the beginner unless no other places can be found, for at best it is very difficult and requires the experience of a professional trapper.

The opossum is not as hard to trap as the 'coon. Sets may be made along ditches, small streams, etc. In general, use the same methods I have described for taking the raccoon. It is not necessary to employ a trap as large as the No. 1 1-2, although some trappers prefer this size.

Where there are signs of the 'possum, along some shallow ditch or stream, make a set as follows: Find a place where the weeds overhang the banks, and under this set one or more traps. If it can be had, pour a few drops of fish oil over the weeds, so the water does not reach it. (This oil may be obtained by letting fish rot in a jar. Small fish are better, but larger ones will serve well, especially if they are cut up. Place the jar in the sun, without a cover or cork. This is a good lure and may be used to advantage when trapping, provided, of course, no good patent scent may be had.)

Go in the woods where there are 'possum. About eighteen inches from the ground, nail a small fish to a tree. Place under this one or more traps carefully concealed.

Another set very similar may be made by hiding one or more traps in the leaves and placing near by several drops of fish oil. If this cannot be had, the oil of sardines, or even the fish themselves, are good lures. Some trappers use salmon for taking this animal also, and prefer it to anything that can be had in the way of a decoy.

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FEEDING COWS RIGHT

By E. L. Vincent.

"Down at the barn feeding the cattle. Back in five minutes."

This is a sign a host of farmers might well hang on the door when they go down to do chores in the morning. Same way at noon or night. You know the program. Pitch down a pile of hay, throw a lot in the mangers, stand the fork up against the side of the barn and go back to the house. That is what we call feeding the cows.

In the best sense of the word it is not feeding them at all. It is stuffing them without a particle of reason, except to go through the motions and get at something else. Now, what is feeding cows as they ought to be fed? As I look at it, it is to pay some attention beforehand to the needs of each particular cow. Is she giving milk, or is she on furlough? Is she a hearty eater, or is she a mincer? Is she in good flesh or is she thin? It takes time to figure these things out properly. And when we have done that, we have learned that the hit-or-miss way of tossing feed into a manger is the worst way in the world. Not only are we wasting feed, but we are doing our cows a rank injustice, and there is no money in either.

It is a good plan to watch the actions of your cows while they are eating. Do they begin at the top and wade right down through to the bottom, or do they commence by tossing half you have given them over the top and picking out here and there a choice bit? If they go at it as if they meant business, enjoying every mouthful, they are going to get some good out of the feed. And we need to take notice whether or not they clean up their mangers every time. If not, we have fed too much. We need to cut down the ration or to change it to suit the cow's appetite more surely.

And then, about ensilage and ground feed. Never be satisfied until your stock clear up their mangers. The waste from rejected bits of food would ruin the richest man in the country in short order. Almost every bit of this might be saved by careful feeding. True, there will be now and then some hard pieces of stalks that no cow could be expected to eat, and ought not to eat, but in the main, the mangers ought to be slicked up at every feeding.

Two or three things will help about this. In the first place, cows that are well combed and brushed every day will be in better feeding condition, and will give back more money for the feed given, than those whose skin pores are all clogged with dust and dandruff and other foul matter. The good feeder will see to this himself, and not trust it to somebody else, unless he knows he has a real good hand. And this means that he will have to change the time on the sign at the back door.

Then, too, cows have a chance to work up an appetite if they are given a little outing every day. Fresh air is a great appetizer. Exercise has a direct bearing on the feeding problem. Cows that have this privilege of moving about come back with a good, sharp appetite. It is a joy to them then. Watch a herd that has been properly aired, and see if they do not come in on the run to take their rations. The cow that stands all the time in the barn has dull, listless eyes. She does not care whether she eats or not. As plainly as she can say anything she says, "You are not doing the fair thing by me. I ought to have some fresh air. Then I could work for you."

Now, the upshot of this is that right feeding brings right returns. Nothing else will. You may have the very best cows, of the most approved breed; your barns may be all right, but if you do not feed right, you are not going to win the blue ribbon in dairying. It pays for that reason to study, to think, to watch the cows and keep an eye on yourself. Do these things and you need not worry about results.

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Her six records are as follows:

Age at Start of Test Years	Months	Milk Lbs.	Butter (85%) Lbs.
2	2	7,050.2	446
2	8	9,924.8	672
4	11	14,373.2	1006
6	7	15,099.4	1097
7	11	17,557.8	1176
9	7	11,915.4	800

A total of 75,920.8 lbs. of milk, 5,217 lbs. of 85% butter, for six consecutive lactations earns "Sophie" the title of World's Champion Long Distance Dairy Cow. Sophie 19th of Hood Farm is owned by Mr. C. I. Hood, of Lowell, Mass., and was tested under the supervision of the Massachusetts Agricultural College.

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The abundant rainfall this year made possible yields that would not be obtained during years when lack of moisture limited the use the land could make of such abundant plant-food, but these tests show that even in ordinary years the manure can well be applied to the timothy meadow as well as to the corn as has generally been believed.

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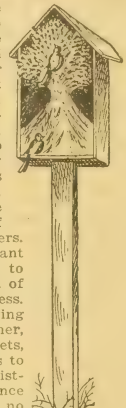
5. Why can't we see in the dark?

Boys and girls, how would you like to have a bright, shining, new Five Dollar gold-piece to call your very own? Well, here's a chance to get that very thing, and at the same time learn five good lessons. Send me the best answers you can make up to each of the five questions above. If you don't know the answers, find out. Ask your teacher, your preacher or anyone whom you think ought to know. Find out where you can read the answers for yourself, and then write it out. Be brief.

For what we consider the most concise, neatest and best answer we will send $5.00 in gold. The next best $3.00, and $1.00 for each of the next two best. Contest closes January first—the New Year. Send your answers to Prize Editor, Farm News, Springfield, Ohio.

THE BIRD'S CHRISTMAS

Christmas day will soon be here. The children everywhere will be shouting and laughing with glee, happy in the possession of the many beautiful presents which they have received from their parents, relatives and friends. Santa Claus will have ended his annual trip among the good little boys and girls and will be ready to rest for another year. No doubt the fields outside will be covered with a beautiful mantle of snow, the air will be crisp and sharp, the merry jingle of sleigh bells can be plainly heard, mingled with the shouts and laughter of the gay load of joy riders. Boys and girls, we want to call your attention to one thing in the midst of all this joy and happiness. When you are enjoying your Christmas dinner, your candies, and sweets, cakes and all that goes to make up a joyous Christmas feast, cast one glance out of the window and no doubt you will see dozens of little birds shivering in the cold, with nothing in sight to eat. They are hungry. Their Christmas is far from being as happy as yours, although you will probably find them making little complaint.



We show you herewith an illustration of how to give the birds a joyous Christmas. You probably can't do it this year, but you can next year. Save a nice big sheaf of wheat and lay it away. Then construct a little house something similar to the picture, and on Christmas eve, take the sheaf of wheat and place it as shown, and see how much happiness it will give you on Christmas day to see the little birds enjoying their Christmas dinner.

Let the post extend up through the box a little, and then you can push the sheaf of wheat down over it and that will hold it in place so it will not fall out. Put a little suet in along with the sheaf.

This custom originated in Norway and Sweden. In these countries on Christmas eve a sheaf of wheat is placed in front of nearly every house for the birds' Christmas dinner the next day.

I want to know how many of our boys and girls will do this for the little birds next year. Write to me. If you send me a photograph of your bird house I'll send you a handsome present.

Hoping that you will see that the hungry little ones everywhere are fed, we wish you all a Merry Christmas.

A FRIEND OF SANTA CLAUS

(By Berenice Jackman)

For weeks and weeks before Christmas Tommy Lee had been talking about what he expected to find in his stocking; he had written a letter to Santa Claus and given it to his mother to post, and then he flattened his freckled nose against the shop windows choosing the presents he wanted.

"And a pair of roller skates," he said one day to Ben Walker. Tommy was only seven, while Ben was seventeen years old.

"Huh!" sneered Ben. "Santa Claus don't come to poor kids." And he went away.

"Mother," said Tommy, with a quiver in his voice, "Ben says Santa Claus don't come to poor folks' houses."

Mrs. Lee smiled sorrowfully. "I am sure he will put something in my boy's stocking," she said.

"I suppose he wouldn't bring a pair of roller skates," remarked Tommy, "or some nice warm gloves and shoes for you, mother?"

"I am afraid not, dear. You see, there are so many to remember."

Tommy said nothing for a time. If his father had been alive—He choked back a sob and slipped into the dark little bedroom. In the bottom drawer of the bureau he found a pair of his father's big woolen socks.

"I'll be back soon, mother!" called Tommy, and he scooted out.

Five minutes afterward Tommy Lee

ALL THESE FREE

Gold plated locket set with sparkling stone and 25-inch chain, one Netherside bracelet to fit any arm and these 4 gold plated Rings **ALL GIVEN FREE** for selling only 12 pieces of our Jewelry at 10c each. Write for Jewelry today.

EAGLE WATCH CO., Dept. 6 East Boston, Mass.

was trudging up the broad avenue.

A sleigh glided up in front of a beautiful white marble mansion, and out of it hobbled an old man in a fur coat.

He wore a furry cap pulled over his white curly hair, and his whiskers were white and fluffy, and Tommy was sure that he had found Santa Claus.

Tommy Lee hopped after the furry coated old man, and when a tall footman opened the door Tommy went inside, and no one saw him until the little old gentleman snapped on the electric lights in his library.

"Please," said Tommy breathlessly, "are you Santa Claus?"

"Bless me! What a question! Perhaps I am. But how did you come in?"

Tommy Lee told him, and he even explained why he had brought his father's big woolen socks.

"One is for mother, and the other is for me, please, Mr. Santa Claus. I did wish for roller skates at first, but mother needs shoes and gloves and a little rest. Do you have any rest in your pack, sir?"

Santa Claus nodded his head. "Heaps of it," he promised. "Where is your father, my lad?"

"He is dead," said Tommy tearfully. "He was shot by a burglar who was stealing from a rich man's house. My father was a brave policeman."

"Shot—by a burglar." Santa Claus looked very thoughtful, just as though Tommy's father had been killed in his beautiful house, which happened to be the case. "Well, young man, suppose we call for my sleigh and we will go to the shops."

Tommy Lee never forgot that wonderful ride. After the sleigh was full of beautiful bundles they dashed up to Tommy's home and startled Mrs. Lee by bringing in dozens of paper packages. One of them held a fine pair of roller skates.

And while the friend of Santa Claus talked to Mrs. Lee and promised her work in his own house Tommy fell fast asleep with his cheek upon his father's woolen socks. And when he awoke it was Christmas morning.

Talking Machine FREE

Reproduces the talking and singing voice; also instrumental music. Plays flat records. Extremely simple—fitted with ball-bearing turntable; finished in aluminum, polished copper and green felt.

Send your name, and we will send 12 sets of fine art pictures to dispose of on Special Offer at 25c. Send us the $3.00 you collect and we will send you this wonderful machine and selections of records.

M. O. SEITZ, Dept. 12T43 Chicago

72 Xmas Post Cards Stamps, Seals, Tags 10c

Great bargain. Everybody wants them. Big lot of 72 Lovely Xmas Post Cards, Xmas Seals, Xmas Tags, Xmas Labels in fine colors and elegant designs. 1 big big package 10 cents; 3 packages 25 cents; 13 packages $1.00. Press Nov. Co., 145 W. Ohio St., Chicago.

BOYS GET THIS 20-SHOT PISTOL Loads of Fun

Shoots 20 times without reloading. Uses ordinary B. B. shot. Fine blue steel finish, looks like a regular automatic. Send 25c to pay for year's subscription to our magazine and will send Pistol free. This offer to introduce EVERYDAY LIFE, AP43 CHICAGO

GIRLS This BEAUTIFUL GOLD SIGNET SEAL RING FREE

Just get ONE friend to give you 25c for a full year's subscription to FARM NEWS—send us the name and the quarter and we will mail you this elegant guaranteed ring with your own initial engraved on it. Address

FARM NEWS, Dept. S-10, Springfield, O.

FREE

CARMEN BRACELET

Warranted for 6 Years

This genuine heavy gold plated, adjustable Carmen Bracelet fits any wrist. Will wear for years and is guaranteed by the manufacturers to be the very best quality. Given for selling 8 packages of our extra fine needles at only 25c. a package on new easy plan. (Each package contains 55 needles and marked to sell at 25 cents. Our price makes them go like hot cakes. When sold send the $2.00 and we will send you the Bracelet as advertised. Send for goods to sell to-day.

FARM NEWS, Dept. S-9, Springfield, Ohio

A SKITTISH CHRISTMAS TREE

The Swedes have a custom at Christmas time of decorating a pet lamb with red ribbons and bells, then loading it with gifts for the family. The lamb is turned loose in the house, and each person attempts to catch it and find his or her gift.

A girl is truly in love when the size of the stone in her engagement ring is a matter of absolute indifference.

Solve This Picture

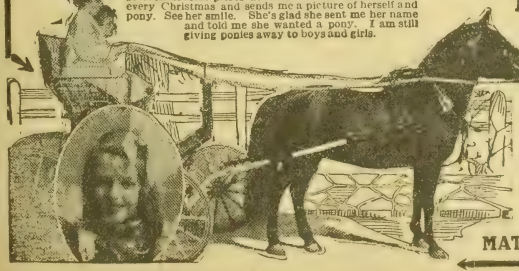
See Our Big Prize Offer Below

A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free. If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)

This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY



Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.

Do You Want This Pony?

The next pony I am going to give away is a beauty—jet black, about as high as the dining-room table, round, plump, well trained, as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one, if you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S5, Springfield, Ohio

Don't Wear A Truss!

After Thirty Years Experience I Have Produced an Appliance for Men Women or Children That Cures Rupture

I Send It On Trial

If you have tried most everything else come to me. Where others fail is where I have my greatest success. Send attached

The above is C. E. Brooks, inventor of the Appliance, who cured himself and who is now giving others the benefit of his experience. If ruptured, write him today, at Marshall, Mich.

coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It gives instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

FREE INFORMATION COUPON

Mr. C. E. Brooks,
1779C State St., Marshall, Mich.

Please send me by mail, in plain wrapper, your illustrated book and full information about your Appliance for the cure of rupture.

Name .....

Address .....

City ..... State .....

Raise Poultry For Profit

"EGG SECRETS" Tells How

By special arrangement with FARM JOURNAL we are permitted to offer a single year's subscription to that standard agricultural publication to NEW readers only; a two-years' subscription to Household Guest and a copy of "Egg Secrets," for only 50 cents. FARM JOURNAL is for the whole family, the progressive farmer, his wife and his children. Household Guest is a story and home paper. "Egg Secrets" explains how to make money raising poultry at a profit. Send orders only to **Household Guest, Dept. E S 16** 500 North La Salle Street, CHICAGO

Gold Wedding Ring FREE

Send just 35c to pay for a 1 year new, renewal or extension subscription to our big home and story magazine—and we will send you by return mail this very fine 14K gold filled heavy band ring **FREE.** Guaranteed 5 years. Address, **HOUSEHOLD GUEST, WR 16, CHICAGO: ILL.**

Old Coins WANTED. $1 to $500 paid for 1853 quarters, $5 for 1866 nickels. Send 10c for our Illus. Coin Value Book. It may pay you to know. OLD COIN CO., 203 EAST QUINCY, CHICAGO

FORESTRY NOTES

Ambashes grow better when planted in trenches.

Weeping willows should be set out in tiers.

Hall trees bear more heavily in the fall, if planted near the front door where the children can get at them readily.

The White House lawn recently removed its pines and set out spruces. In other words, pining has given way to sprucing up.

"Great oaks from little acorns grow," but they are nothing to the great aches that grow from little toe-corns.

Most of the chestnuts are dying out from a pest, but the mother-in-law joke still springs occasionally from another kind of pest.

It is considered a highly appropriate thing to plant rows of nut trees about insane asylums.

Family trees must be planted deeply, but shoe-trees grow just as well if merely heeled in.

Family trees of wealthy people are usually recognizable by the lopping off of the lower branches.

A well-kept avenue of birches is considered correct for the approach to a school house.—Strickland Gillilan, in Judge.

GREASE THAT PLOW

The best tools go soon enough.

Ounces of grease save dollars in repairs.

The seeds of rust and decay bring a harvest of loss to the farmer.

If machinery displaces men and horses it demands more care than ever.

Keeping the polish on a moldboard may be better than shining in society.

Simplicity, reliability, durability, and accessibility should be sought when you buy tools.

At the University farm we get good results from a mixture of whiting and hard oil. First make a thick paste then thin it by adding more oil. Apply to the moldboard with a brush and rub off with a gunny sack just before using the implements in the spring.—M. A. R. Kelley, Univ. of Missouri.

SPOILED SILAGE

Spoiled silage may not seem to injure some farm animals, but it is dangerous to others, and has lost much of its food value for all. The loss results almost entirely from mold, and could have been prevented, altho the only thing to do now is to study what has happened in your silo and learn how to do better next year.

Unless the silo was sealed, or feeding was begun immediately after filling, from six inches to a foot at the top is sure to be spoiled. It should be put where it cannot be reached by any farm animals. Lower down, the presence of spoiled silage always indicates the presence of air, as the molds which give it the appearance of rotten manure could not work without air. The lack of sufficient water in filling is the commonest cause of the presence of air, but sufficient tramping in an airtight structure is also necessary. Red mold, which sometimes causes alarm, is no more dangerous than the less conspicuous forms which often pass unnoticed.

YOU Can Play Piano First Day

New Plan Makes Teachers, Lessons or Study Needless—New Music Read Easily as a Newspaper, Being Written in Plain English Letters (C-D-E-F-G-A-B-C).

Sent Free to Prove It.

Just Send Address for Complete System and 100 Music Pieces, All Charges Prepaid.

"What Do You Think of That! Never Played Before and Now Just Hear Her!"

Anyone can now play the piano or organ with the fingers of both hands. Not after months of study and practice and expensive lessons, but **RIGHT AWAY—almost as soon as you get the Easy Method Music System.**

John H. Ferguson, Acme, Alta., Canada, says: "I was not a little amazed when I found I could play in a few minutes." C. Fittmann, Meno, Okla., says: "I have two children, one is 12 and the other 10, who in a very few minutes could play it well, and they did not know one note from another in the old music." V. R. Perkins, Romney, Ind., says: "I studied 'Easy Form' music fifteen minutes and then started to play." Thousands of similar reports are in our files. Doesn't this convince you that you can play by this wonderful, new method?

Prove it for yourself. Send for complete system and full instructions. Try it in your own home for seven days, FREE. If you want to keep it, then send us $1.50 down, and $1.00 per month for five months. If not satisfactory, simply return it to us and owe nothing. Isn't that fair? When writing, state how many white keys on your piano or organ, and whether you play old-style note music.

Send today! The quicker you get this, the sooner you can entertain your family and friends with your playing, so send now. Address: Easy Method Music Co., 769 Clarkson Bldg., Chicago, Ill.

HORSE BOOK FREE

Here is a book that should be in the hands of every horse owner. Author with the greatest book on the subject ever written and practically sets it down in language that horse owners and livestock breeders can understand. Over 1,000 large pages, profusely illustrated. Plain, clear, simple language with the theory and practice of Veterinary Science—Diseases of Horses (Cattle, Sheep, Poultry, Swine and Dogs—well tested and proved preventive Prescriptions by Gleason's famous System of Horse Breaking, Training and Taming, Gleason's marvelous skill in training and treating horses is known throughout the entire world and he is considered the most greatest authority in the field.

OUR GREAT OFFER! By a special arrangement direct with the publishers we are able for a limited time to offer Gleason's Horse Book" absolutely free, postage prepaid, to all who send only 40c to pay for a 1 year new or renewal subscription to our big farm magazine, and send our name and 40c at once.

FARM NEWS, Dept. S-12, Springfield, Ohio

10 Days' Free

Charges Prepaid
Send No Money

Twice the Light
Half the Oil

NEW KEROSENE LIGHT

Beats Electric or Gasoline

U. S. Government and Scientists at 35 Universities tested and endorsed the Aladdin.

Don't Pay Us a Cent

until you have used this wonderful new modern incandescent light in your home for ***10 days,*** putting it to every possible test and then if you don't say it is the greatest oil light that you have ever seen, or you are not thoroughly satisfied, ***you may send it back at our expense.*** You can't lose a penny. We want you to prove for yourself, as thousands upon thousands of others have, that the Aladdin has no equal; that it makes the ordinary oil lamp look like a candle; that it ***saves one-half on oil;*** that it beats electric, gasoline or acetylene; lights and is put out like old style oil lamp; burns common kerosene (coal oil) without odor, smoke or noise; is clean, safe. GUARANTEED.

Men With Rigs Make Big Money

NO EXPERIENCE NEEDED

Practically every farm or small town home needs it and will buy after trying. One farmer who had never sold anything in his life before, writes: "I sold 57 lamps the first 7 days." Another who ordered over 200 in 30 days says: "I consider the Aladdin the best agency proposition I have ever had, and I have done agency work for 10 years." Another says: "I disposed of 34 lamps out of 31 calls." Thousands of others who are coining money endorse it just as strongly.

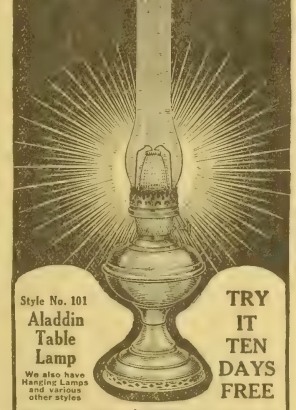
Thousands Now Enjoying its Brilliant White Light

The Aladdin is not an experiment but has been on the market seven years, tested in thousands of homes and every mail brings hundreds of enthusiastic letters from satisfied users endorsing the Aladdin as the most wonderful light they have ever seen.

Such comments as, "You have solved the problem of rural home lighting;" "I could not think of parting with my Aladdin;" "The grandest thing on earth;" "You could not buy it back at any price;" "Beats any light I have ever seen;" "A blessing to any household;" "It is the acme of perfection;" "Better than I ever dreamed possible;" "Wouldn't have believed it 'til I saw it," etc., pour into our office every day.

Awarded Gold Medal At World's Exposition

The Aladdin has just been awarded the First prize Gold Medal at the World's Exposition at San Francisco, ***the very highest honor***—in competition with the best Kerosene lamps of this country, and the leading European countries as well.



We Will Give $1000.00 in Gold

to the person who shows us an oil lamp equal to the Aladdin (details of this Reward Offer given in our circular which will be sent you.) Would we dare invite such comparison with all other lights if there were any doubt about the superiority of the Aladdin?

Sold 275 in Six Weeks

Here is an exact copy of a letter written us recently by one of our enthusiastic farmer distributors who has made over $2,000 during spare time the past two winters:

"It is a pleasure to sell the Aladdin. It makes good on all your claims, and it is easy to convince people that it is the best lamp on the market. I still use my first lamp as a demonstrator and it works perfectly although it has had pretty rough usage for over a year and a half. Between Jan. 2 and Feb. 20, I sold about 275 lamps. I never saw anything that would sell equal to the Aladdin."

NO MONEY NEEDED

WE FURNISH THE CAPITAL

The honest ambitious man who wants to get into a business of his own and make not merely a living but have a nice income, does not need capital to get started with us because we furnish him with a stock of goods on time.

To One User In Each Locality We Offer the Chance to Get the Aladdin Free and Make Big Money

We want one user in each locality to whom we can refer people who are interested in the Aladdin. Be the first and get, *free*, the Aladdin which we loan you for ten days for showing to a few neighbors and sending in their orders. You can easily do this. We'll tell you the whole plan when you write, also arrange our 10 days' loan of the lamp to you. Don't wait. Send the coupon—fill it out right now. Send to nearest office.

WE TRUST YOU

We know that in making this liberal and almost unheard of offer to you, we take no risk. ***We don't want you to take any risk*** and that's why we do not feel we have any right to ask you to send any money in advance. We just want to place one of these new Kerosene (Coal Oil) Mantle Lamps in your home to use for ***10 days absolutely free.*** That is the only way you can ever get an idea of the wonderful white powerful light it gives.

THE MANTLE LAMP COMPANY

Largest Kerosene (Coal Oil) Mantle Lamp House in the World

488 Aladdin Building, CHICAGO, ILL.

NEW YORK CITY PORTLAND, ORE. MONTREAL, CAN. WINNIPEG, CAN.

10-Day FREE Trial Coupon

Mantle Lamp Co., 488 Aladdin Bldg.

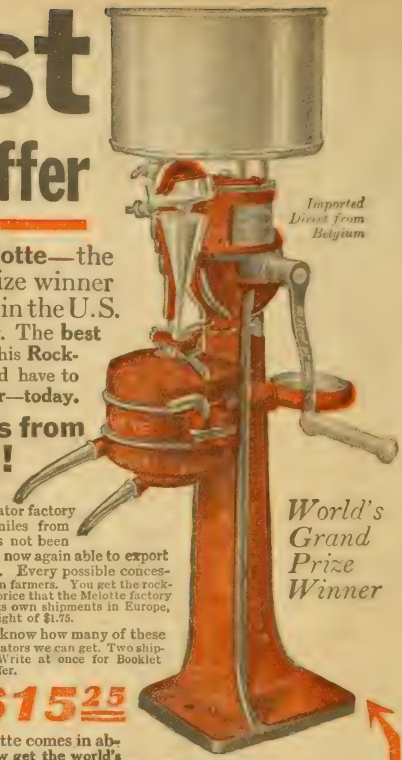
Gentlemen:—I want to know more about the Aladdin Lamp and your 10-day LOAN OFFER, also tell me how I can get an Aladdin Lamp free, and explain your easy delivery plan under which inexperienced men make $100 to $300 per month without capital. This in no way obligates me.

Name.....

P. O. Address.....

R. F. D. No.....State.....

Greatest Cream Separator Offer



The **Melotte—the wonderful Melotte**—the great Belgian Cream Separator—the prize winner all over Europe—now shipped anywhere in the U.S.—and on the most sweeping introductory offer. The **best** of all separators in Europe or America—**yours** on this **Rock-Bottom** free trial offer—at the same price you would have to pay in Belgium. **Send coupon for great special offer—today.**

Wonderful Record

Half a million Melottes are in daily use all over the world. The Melotte has won over 180 International prizes. One machine has been running in the factory at Remicourt, Belgium, the equivalent of 54 years of actual work without appreciable wear. Think of it!

The reasons for its superiority are plain. The Melotte bowl hangs down from a single perfect bearing and spins like a top. It will continue spinning for half an hour after you stop turning the crank unless you apply the brake. This patented self-balancing bowl is entirely automatic. Balance is so perfect that it is impossible for it to vibrate and effect the skimming efficiency like other separators. Bowl chamber is made of special cast iron, porcelain lined with white bath tub enamel. The Melotte is easiest to clean, sanitary, and lasts a lifetime.

Good News from Belgium!

The wonderful Melotte Cream Separator factory which is only four miles from Liege and which has not been injured in the war, is now again able to export to the United States. Every possible concession is made to American farmers. You get the rock-bottom price, the same price that the Melotte factory has charged direct on its own shipments in Europe, plus only the ocean freight of $1.75.

We do not know how many of these Belgian separators we can get. Two shipments have arrived. Write at once for Booklet explaining our great offer.

Free Duty—Save $15.25

The high tariff has been cut right off—the great Melotte comes in absolutely free of duty! You win! The American farmer can now get the world's best—the grand prize winner of all Europe—at a price $15.25 lower than ever before. The Chicago price is the same price you would pay if you bought the machine in Belgium, plus only $1.75 for water freight. You cannot compare any other separator to the Melotte — the latest and most improved in design, construction and operation. The tariff and patent arrangements have kept it off the American market. Now it is here and sent to any responsible farmer on the most liberal free trial offer ever made. ***The Melotte is absolutely guaranteed for 15 years.***

Sent Without A Penny Down —30 Days Free Trial

Your simple word that you would like to see this wonderful imported cream separator in your own barn or dairy house brings it to you instantly. We neither ask nor want you to send us a penny. You set it up—give it a thorough test with the milk from your own cows—a free trial in every sense of the word. No C.O.D.—no lease or mortgage. If you decide to keep the Melotte, you can keep it on extremely easy

Monthly Payments

These monthly payments are so small that you will hardly notice them. You only pay out of your increased profits. You don't need to be without a cream separator when you can have the Melotte right in your dairy house while you are paying for it. In reality you do not pay for it at all—it pays for itself. We want to demonstrate and prove that the Melotte **does** pay for itself.

Valuable Book Sent FREE

Place your name on this coupon, cut it out and mail at once. We will send you our great free book, "Profitable Dairying" telling you everything about cows and dairying—how to feed and care for cattle—how to make more money than ever before out of your cows. This book is written by two of the best known dairy scientists in the country: Prof. B. H. Benkendorf, Wisconsin Dairy School Agricultural College, Madison, Wis. and K. L. Hatch, Winnebago County Agricultural College, Winneconne, Wis. Does not contain a word of advertising.

We will also send our Free Catalog, describing fully the Melotte Self Balancing Bowl Cream Separator and telling all about the great Free-Duty offer and extremely liberal terms. Send coupon today.

The Melotte Separator, 19th St. & California Avenue, Dept. 3569 **Chicago, Ill.**

The Melotte Separator
19th St. and California Ave.
Dept. 3569, Chicago, Ill.

Without any obligations on me, please send me free and prepaid your booklet, "Profitable Dairying," your free catalog, also your free-tariff, price-reduced offers on the imported Great Belgian Melotte Cream Separator, and our free trial, monthly payment, no-money-down offers.

Your Name.....

Address.....

.....

FARM NEWS

A Happy New Year January, 1916

With Best of Good Wishes For Bountiful Crops at Profitable Prices

In This Issue

The Wisconsin Potato Show; The Case of Nitrogen; Harvesting the Apple Crop; Dairy Problems; Selecting the Best Implements; Crop-Growing Systems for Stock Farms. Cash-Prize Poultry Contest, Page 18; Cash-Prize General Farm Work, Page 14.

Double Your Dollars Now!

Greatest Values In Our Eventful Career

Wire and Fencing Priced Low

Strong Fencing 15c per Rod A splendid fencing for hogs and all general farm purposes. 26-inch, 7 line wires high. Square mesh, stays 12 inches apart. Put up in rolls of 20, 30 and 40 rods. Order by lot No. AK-33. Same as above, except stays spaced 6 inches, per rod, **21c.** Order by lot No. AK-62. Staples for erection, 100 lbs., **$2.50.** Order by lot No. AK-34. Our wire catalog tells more.

Galvanized Fence Wire $1.65 Buys 100 lbs. Smooth Galvanized Wire. Suitable for fences, stay wires, grape vines and all purposes for which wire is generally used. Put up in rolls of irregular lengths ranging from 60 to 250 feet. This low price is for 100 pounds of our No. 9 gauge, the standard size mostly in demand. We have every desired size. Order by lot No. AK-37. **Galvanized Staples, 2 1-2c per lb.**

Barb Wire Less Than 3c Per Rod New Galvanized heavy weight barbed wire put up on reels of about 100 lbs. 2 point barbs. Price per 100 lbs., **$2.95.** Order by lot AK-35. **Galvanized Barbed Wire, light weight, first grade** and best made, put up in exactly 80 rods to the reel. 2 point barbs. Price per reel, **$1.75.** Order by lot No. AK-36. Best quality, painted barbed wire, per 100 lbs., **$2.35.** Order by lot No. AK-12.

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Volume XXXVI **JANUARY 1916** **Number 1**

MARKETING AND RURAL CREDITS

Report of the Third Annual Conference Held at Chicago

YOU'D think that to prosper all a farmer needs is to produce the goods—Big Crops, Big Money. That's what everybody thought ten years ago and all hands got busy on the job of making two blades of alfalfa grow where there was but one tumbleweed before. Then the farmer discovered that when he harvested a bumper crop he actually got less for it. One year the corn crop was 600 million bushels more than the year before, but it brought the farmers of this country 100 million dollars less. Production wasn't enough—the stuff had to be sold AND SOLD RIGHT.

So all hands got a new hunch—that market methods were out of joint—and for the last five years the Federal Department of Agriculture, the State Experiment Stations, farm papers and organizations have given thought to the most direct and economical way of getting produce from the field of the grower to the home of the ultimate consumer. "From Farm to Family"—that's the new slogan.

Furthermore—it takes capital to buy or run a farm. Like other business men the farmer must borrow capital. Interest charges, restrictions and other burdens have made it impossible for the average farmer to prosper as a borrower—from all of which has grown a demand for better credit facilities.

Following the good, American custom of talking things over, there was held in Chicago on November 29-30 and December 1-2 the Third National Conference on Marketing and Farm Credits. This is a body of representative farmers and those who work for the farmer—plus a few who work the farmer—formed for the purpose of investigation and discussion, and now aspiring to become the cement that will bind rural organizations into a solidified unit, as per announcement: "This conference is an organization formed for the purpose of launching a movement to organize the agricultural interests of America for practical work."

As everybody knows, the urgent need for farmers today is cooperation—to organize associations that will best promote their welfare. At present there are numerous propaganda bodies competing for membership, many of them inspired by the personal ambitions of some one with an ax to grind, but none with a leader who has shown how to unify the parts. If the aforesaid conference can amalgamate the discordant elements, and promote an enduring, nation-wide federation of farmers, it will render a signal service to the country and help to revolutionize rural life.

Discussion was not restricted to a consideration of the needs for better market methods and a more equitable system of financing the American farm, but included emphatic declarations against the evils of landlordism. It was shown that 37 per cent of our farm lands are now occupied by renters and that the history of other countries reveals national degradation under tenant systems of farming.

David Lubin, our delegate to the International Institute of Agriculture at Rome, said that "the strength of Germany lies in the facts that the German farmer owns the land he tills, and he is the commercial peer of his city brother."

Assistant Secretary of Agriculture Carl Vrooman, made a plea for the administration's ship purchasing bill. The farmer's interest in some such measure is shown by the fact that the normal ocean rate on wheat from New York to Liverpool is four cents a bushel, but that in the hands of a foreign merchant marine the present rate is forty cents a bushel.

The standardization of farm products was given considerable attention. Charles J. Brand, Chief U. S. Bureau of Markets, said: "Standardization is the fundamental basis of progress in every industry. The Department of Agriculture has perfected the standardization of cotton and is now working along similar lines with fruit and vegetables. State legislation is too slow and conflicting—national legislation only is practicable." The conference recommends the standardization of farm products in qualities, varieties, methods of preparation, and containers.

The German "Landschaft" system of rural organization is regarded by eminent students of farm economics as the only sound plan for our own country. As the local unit, the township coordinates with the county organization, the counties with the state, states with the nation. This forms a pyramid of strength that enables each and every farmer to exercise direct power in legislation and otherwise. American farmers should look into this Landschaft thing, and while they are at it they might get a line on the Rochedale cooperative system so successful in England. Necessity has compelled the European farmer to invent and use the most effective means of working together for mutual protection and advancement. We will do well to adopt these systems as far as they are applicable to American institutions.

There are 118 bills now before congress for rural credit systems and doubtless some legislation will ensue at the present session. The conference endorses by resolution "only such legislation as will provide for the valuation and the most careful maintenance of agricultural values; and only such legislation as is based upon self-help, careful auditing, a sound amortization plan, and the cooperative principle of organization for rural credit banks." The prevalent notion is that association banks would provide relief for the American farmer who pays on the average 8½ per cent on farm loans.

FREE ACCOUNT BOOK

Elsewhere in this issue an advertiser offers to send free a 64-page account book. The book is arranged to keep all accounts in simple form; shows how to charge against crop production; has a laborer's time record and section for personal accounts. Look up the advertisement and write a postal card to the advertiser, not to us, and get this book. You will find it useful.

The Reliance Engineering Company, of Lansing, Michigan, wish to announce to the trade the purchase of the Seager Engine Works, of Lansing, manufacturers of the well-known Olds line of gas and kerosene engines, which have been giving service to farmers and contractors of this country for the past 38 years, and that the Seager Engine Works will be now known as The Reliance Engineering Company. The trade name of Olds engines and Reliance cream separators will not be changed.

The Wisconsin Potato Show---*By Howard I. Wood*

WHILE farmers who have no intention of raising potatoes regularly, as a well-thought-out part of a regular rotation plan, can occasionally make a big stake by a record yield of potatoes in a year when potatoes are scarce in the country at large, it is only those growers who year in and year out keep closely in touch with progress in cultural methods, disease-control and marketing, and who grow potatoes as part of their regular farming business, who are successful. The other fellow uses the potato-growing industry like a gambler—he plays for a big stake, wins occasionally, but generally loses.

Such was the conclusion of the best cultural and marketing authorities at the fourth annual show and convention of the Wisconsin Potato Growers' Association, which were held at Marinette, Wis., this fall. The show was accorded the distinction of being the greatest potato show, both in the number and quality of exhibits, ever held in this country. As Wisconsin potatoes, chosen from the state show at Marinette later took first place in the national potato show at Grand Rapids, the tribute on quality was well borne out, and the number of entries at the Wisconsin show was considerably larger than at the national exposition.

Not only the Wisconsin association, but the potato experts of other states who were present, agreed that the most vital question in the potato industry at present relates to marketing. While the association had some definite progress to report, it was agreed that the time has come to turn to the marketing issue with more vigor than ever before. Cultural methods have been brought to a point where the yield, and to a certain extent, the size and shape of the potatoes, can be controlled. Disease-control measures are fairly well understood, and rapid progress is being made, but progress in marketing is in its infancy.

Two avenues of activity were pointed out as the means of bringing better prices to the growers of pure-bred, disease-free stock. One plan is for immediate results; the other for a more permanent settlement of the market problem. For the immediate future growers were urged to concentrate their efforts more extensively on the production of certified seed. There is little danger, it was held, of flooding the certified-seed market for ten years to come. Pure-bred seed brings from two to three times as much as the highest prices at the loading stations. The premium seems to be enough to make the extra trouble, and slight extra expense, well worth while to the grower. Furthermore, it has been established that states such as Wisconsin, Michigan, Ohio, Maine and Colorado, where the climate is not excessively hot in the summer, are rightly the centers of potato-seed production. While states with warmer summer climates will probably always raise more or less potatoes for home use, they cannot raise the virile, disease-free seed which is needed for the commercial seed trade.

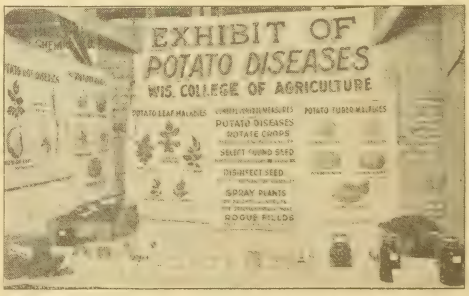
Certified Wisconsin seed is handled in standard-sized labeled containers. All complaints are adjusted thru the State Growers' Association

For a permanent solution of the marketing problem the speakers and demonstrators pointed to standardization of potatoes, the standard package, branding and advertising—this in addition to proper sorting and grading, which is being more or less carried out today.

The foregoing was the remedy recommended by E. S. Brigham, commissioner of agriculture of the state of Vermont, who is himself a successful grower. For years he has grown seed at his farm, at St. Albans, Vt., for the Virginia seed market. Mr. Brigham is rated as one of the foremost cultural and market authorities on potatoes in America.

"This is the day of the standard package," said Mr. Brigham in his address to the Wisconsin growers. "The standardized product and the brand which stands for quality. Prosperity will wait upon your industry if you take the lead in doing for the potato what has been done successfully for so many products."

"The potato grower has a product which is used every day by almost every American family," continued Mr. Brigham. "It is a nutritious, healthful food when properly handled and cooked. Middlemen are necessary in handling this product, and they should be well paid for their services, but they should be made the servant of the producer, and not his master. The accomplishment of this, like the solution of most agricultural problems, is beyond the power of one individual. It is, however, possible for a group of individuals working through an association like this. I believe the potato-growing industry of Wisconsin may be revolutionized by this association, if the members will subscribe money enough so that a thoro study may be made of marketing conditions, so that experiments may be made in grading your stock, in putting it up in attractive cartons, and by seeing that dealers are educated to handle your crop properly, and made to sell it at a reasonable price."



Demonstrations, exhibits, lectures and work in the fields and bins with growers is bringing potato-disease control to a science in Wisconsin

Mr. Brigham's idea of what is needed to better marketing conditions was in line with the advice of E. C. Brown, of Elk River, Minn., who has been both a grower and buyer of potatoes, and acted as one of the judges at the Wisconsin show. He said that ten years ago only one-third as much butter was consumed per capita in America as today, and that only one-third as much was paid per pound for it. The change he attributed to standardization of the product, and to the use of standard package and brands indicating quality.

In the progress already made by the Wisconsin association in getting better prices for table stock, there are some pointers which ought to be valuable to the growers of other states. For one thing, there is absolutely no doubt but what proper grading and sorting is the first step toward better prices. Buyers at the convention said they not only were willing to pay higher prices for properly graded and sorted stock, but that they often scoured the countryside to obtain such stock. They held such potatoes were practically sold as soon as they obtained them, while there was always an element of chance in handling mixed potatoes, with dirt and small ones included, even at a price much below that paid for the fancier stock.

As a strong object lesson in grading and sorting, the Wisconsin association obtained a quantity of unsorted and ungraded potatoes from cars at Chicago—cars which had been shipped from Wisconsin. These were placed on exhibit at the show, and were sorted and graded by experts in the presence of the visitors at the show. It was found that ten per cent had to be eliminated to make them ordinarily good table stock. Ten per cent means sixty bushels in a car of 600 bushels. The growers pay the freight on the sixty bushels of stock, which are either thrown away, or given away at Chicago, and they lose that much pig feed, as well as providing hundreds of people with potatoes free of charge, and thereby lowering the market demand to a certain extent.

Formation of state growers' associations, with county associations as branches, is unquestionably of great value in states where the potato is grown on a scale making the industry a factor in interstate commerce. The association becomes a great marketing factor as well as the force improving cultural and disease-control methods. The Wisconsin association receives many big orders for both fancy table and seed stock, and these orders are, of course, filled through the members of the association, who are the foremost growers of the state. The better reputation the state obtains for its potatoes, the more and better orders that are received.

Growers probably will be interested in knowing more in detail of the seed-certification plan now used very successfully in Wisconsin. The grower enters his plot of potatoes for inspection by the state association, which works through the state college of agriculture. He pays a small fee for the inspection. Two inspections are made during the growing season, and one bin inspection. If his potatoes are pure-bred, reasonably true to type, and disease-free, they are certified by the state association. In effect it is a guaranty by the state that the seed is pure-bred, and free of disease. It can easily be seen that this is a tremendous advantage to the grower in receiving a fancy price for his seed stock.

Wisconsin's association has succeeded in reducing the number of varieties grown in localities to two or three standard potatoes best suited to climate and soils, as well as markets. By this plan entire carloads of Rural New Yorkers, Green Mountains, Cobblers or other standard varieties are easily made up at the loading stations, and the effect is standardization in carload lots. In another year or two it is believed plans will have progressed to a point where Wisconsin potatoes will be sold in standard cartons from retail stores, and will bring the additional price made possible by guaranteed goods.

BALANCED MENTAL RATION

The man on the small farm must specialize, and he must diversify his specialties. Otherwise he will find the business of farming a losing one, whereas, properly run, it yields a fairly good return for the money invested and the labor expended. Then, he has the advantage of reaping all the benefit from concentrated effort.

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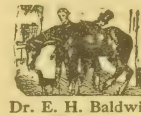

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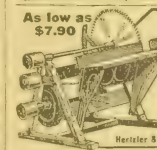

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The Case of Nitrogen

An Analysis of the Value of This Most Necessary Element of Plant-Food

By H. A. Bereman

EVERY farmer knows that good crops grow in rich soil. Every studious farmer knows that a rich soil is one with plenty of plant-food—nitrogen, phosphorus, potassium, iron, sulphur, calcium and magnesium. Ordinary soils have enough of these elements except nitrogen and phosphorus to last for generations.

Swamp or muck soils are rich in nitrogen from decaying vegetation, but nearly all other soils could be made more productive by applications of this element. An eminent authority states that by soil enrichment alone the average crop yields of the United States could be doubled with the same seed and seasons and with but little more work than is now devoted to the fields.

There are extensive areas of abandoned land in the east which have but 900 pounds of nitrogen in the plowed soil of an acre. The average prairie land of the Corn Belt—the largest body of high-priced land in the world—contains only 5,000 pounds of nitrogen in the plowed soil of an acre, whereas a 100-bushel crop of corn removes 150 pounds of nitrogen from the soil. Thus the supply in our "rich, prairie soils" is sufficient for only thirty-three such crops.

On a famous experimental field in England, nitrogen increased the wheat yield from fourteen to thirty-eight bushels per acre as an average for thirty years. The writer knows of one field in Nebraska that had given an average of seventeen bushels of wheat for a number of years, and after three years in alfalfa gave thirty-seven bushels. A large increase in yield almost invariably follows the application of nitrogen to ordinary lands.

Nitrogen is the element which gives a rank growth and dark green color to vegetation. Without it no plant could grow, and when the supply becomes deficient in the soil, crops are unprofitable. Securing plenty of nitrogen is the first and most important step in farming.

Nitrogen is confined to the plowed ground, subsoils being almost devoid of it. This is because it is contained only in organic matter which consists of partly decomposed vegetation—roots, leaves and stalks of plants.

The commonest source of nitrogen as a farm fertilizer is manure. It is incredible that so valuable a by-product of livestock farming should ever be wasted, but if every scrap of manure were saved and returned to the fields, there would not be enough to maintain the productive power of all the farms in the United States. This is plain when we remember that there are 900,000,000 acres of farm land in this country, and only 90,000,000 head of livestock equivalent to cows. The manure from one cow will not enrich ten acres of land.

The question arises "where is our nitrogen to come from?" It can be purchased in various forms of so-called "commercial fertilizers," as bloodmeal, cottonseed meal, "nitrate of soda," fish-scrap, etc., for about twelve cents a pound. At this price the ordinary farmer cannot afford to buy nitrogen. For example, every bushel of corn contains eighteen cents worth of nitrogen at market prices.

The remaining source of this valuable and necessary element of plant-food is the atmosphere. The air we breathe is four-fifths nitrogen, but it is not available for use by plants in this form. It can be extracted by an elaborate mechanical process, but this fact has no agricultural importance, because the expense of manufacture would outweigh its value to the grain-and-hay farmer.

It was known for many years that clover, beans, peas, vetch, alfalfa and other plants belonging to the botanical family leguminosae made the land more productive, and about fourteen years ago the scientific world discovered the explanation. On the roots of these plants certain tribes of bacteria live as healthy and even necessary "guests". These colonies of microscopic plants, which may be seen as small nodules, convert the free nitrogen of the air into soluble or available forms, so that not only the host plant, but others following after, can absorb the "nitrates" and thrive.

The practical lesson the farmer learns by this bit of scientific lore is to plow under legumes and enrich his soil with nitrogen. It is interesting to know that this process also adds humus—decomposing organic matter—which makes the soil mellow, porous and easily worked. Such soil withstands flood and drouth because it absorbs rainfall readily, yet gives off its moisture by evaporation slowly.

Theoretically, plowing under legumes is a simple solution of the nitrogen problem, but practically there is a serious obstacle. This obstacle is the indifference or skepticism of the farmer himself. A large farmer of the midwest was asked if he had ever plowed under a crop of clover. No, he never had. He rotated his crops though, and run clover every four years and turned under the stubble. That ought to be enough. He hated to waste a crop of clover when he could get $10 to $12 a ton for the hay.

Unquestionably this is the attitude of the majority of farmers in America. Whoever thinks he can maintain the fertility of his soil by adding clover stubble every four years is invited to consider the following facts:

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sumed by farm animals in their food goes into meat, milk or wool, while three-fourths goes into the manure.

Legumes secure about two-thirds of their nitrogen from the air and one-third from the soil.

Clover, alfalfa and other biennial or perennial legumes, have about two-thirds of their total nitrogen in the tops and one-third in the roots, while cowpeas, soybeans, fieldpeas, and other annual legumes, have about one-tenth of their total nitrogen in the roots.

Hay made from ordinary legumes contains about 40 pounds of nitrogen to the ton.

Average farm manure contains about ten pounds of nitrogen to the ton.

From these facts it will be seen that ten tons of manure will provide about as much nitrogen as would be added to the soil by plowing under 2½ tons of clover. Either method supplies as much nitrogen as will be taken from the soil by a 50-bushel crop of wheat, a 75-bushel crop of corn, or a 100-bushel crop of oats.

To continue raising profitable crops, the farmer must enrich his soil. He may not safely declare "I can't afford to plow clover under."

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The Smith-Lever agricultural extension act of May 8, 1914, provides for a permanent national system of agricultural extension work to be carried on with Federal and State funds through the State agricultural colleges in cooperation with the United States Department of Agriculture, by means of instruction and practical demonstrations in agriculture and home economics to persons not attending the colleges.

The Smith-Lever Act appropriates money as follows:

(1) $10,000 of Federal funds annually to each of the 48 States.

(2) In addition to the $480,000, the act appropriates for 1915-16 $600,000 of Federal Smith-Lever funds. This sum will be increased annually by $500,000 of Federal Smith-Lever funds until 1923, when the annual Government appropriation will be set at $4,580,000. The additional appropriation is divided among the States in the proportion that the rural population of each State bears to the total rural population of the States. Any State, however, to share in this extra Federal Smith-Lever fund must appropriate and spend in extension work at least an equal amount of money from sources within the State. The money from the States will bring the joint demonstration fund to $1,680,000 in 1915-16.

In addition to the Smith-Lever funds, however, the Department of Agriculture during 1916 will expend from its own appropriations for farmers' cooperative demonstration work and for other direct field instruction in special subjects over $1,025,000. As the accompanying table (p. 8) shows, however, the States will raise from sources within the State and spend for demonstration work a total of $2,650,000. This will make a grand total of $4,750,000 to be spent in the fiscal year 1915-16 in bringing practical and helpful instruction to the farmer and his family in their own communities.

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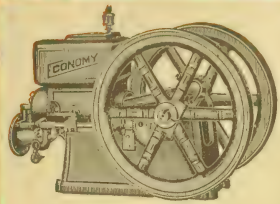

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Harvesting the Apple Crop

Many Little Details Require Very Close Attention to Market This Crop in First-Class Condition

By Alvah H. Pulver

IN THE harvesting of the apple crop, or for that matter any of the tree crops, there are many things fully essential for the best appearance of the fruit when ready to deliver. And in these days of appearances, growers are beginning to learn that in the routine of the finishing touches to a crop are many factors that will go a long way toward making or marring its last chances on the market.

Where formerly there was no cut-and-dried method of harvesting and packing the fruit, today in the more progressive sections of the country the fullest attention is given to every detail connected with the progress of the fruit, from the tree to the container, packed ready for shipment.

The matter has reached that stage where the up-to-date grower is considering a new package termed the "baby barrel" or barrelette, holding one bushel, and enabling the grower to reach the consumer direct in an original package without the multiplicity of handling and bruising of the fruit that ensues when the two-and-one-half bushel barrel is used. Appearance is what counts first, even before flavor, with many buyers, and the campaign for better picking and better packing of the fruit is simply the effort of growers to put in the consumers' hands the product of their orchards in the best condition possible, and then realize to themselves thereby the monetary reward of delivering fruit without suspicion, that will measure up to its brand, and hold its favor because of a conscientious and honest pack.

Sorting and packing in a large commercial orchard in New York

In gathering the fruit from the trees, time spent by the grower in buying the proper tools will be well invested. Ladders are the first consideration. If the trees are small, stepladders may be used. The proper stepladder should have only three legs, so that it will fit uneven ground. A four-legged stepladder is no good in a fruit orchard, as it is always tipping over. The three-legged ladder has a piece of wood bolted at the end on the outside on both sides, with such flare to it that it will spread and, having only one leg, it will take the ground very nicely anywhere, making it almost impossible to tip over.

The best long ladders are made of basswood sides, and have hickory or elm rounds. The ends of the rounds are turned off with a spoke brace, so that where they come into the sides they fit perfectly, with a strong shoulder on the inside of the sides. Then by driving a key into the rounds, where they stick through the ladder, is made very strong. Such ladders have quite a spread at the foot, do not wobble sideways, and never squeak. Another important point is, that as the ladders and stepladders are exposed more or less to the weather, they should be oiled at least every year. Some growers use paint to preserve them, but experience would seem to teach that this is a mistake. Linseed oil, half raw and half boiled, is much better.

There are several ways of gathering the fruit. Where the apples are very choice, and the skin very delicate, they ought to be picked in half-bushel baskets, and not turned out of the basket. Enough baskets should be on hand to care for the picking. Some growers use several hundred of such baskets. The basket being filled is hooked to the ladder or to a limb, the men picking not being allowed to get higher than their baskets so that the fruit is thrown into the receptacle. The best position for the basket is between the hips and shoulder, preferably abreast the shoulder. With extra good fruit some growers line the baskets with burlap, but this is hardly required when good care is taken in picking.

The loaded baskets are gathered on a low-wheeled truck on which is placed a rack with springs, like a hayrack, but well boarded over so that the baskets sit on a platform. This rack will hold seventy baskets. The baskets are gathered up and drawn to the packing house, which is practically in the center of the farm. They are placed on a table, and are usually graded by girls and women. The baskets are not turned, but rather the fruit is picked and packed by hand.

With the tougher skinned variety of apples, like Baldwins, grain bags are often used to gather the fruit in. To the grain bag is attached a folded strip of stout canvas, fastened at the closed end, and also at the mouth of the bag, from which another passes to the lower point opposite. A piece of hoop is bent round and put in the mouth of the bag, the edges being drawn over and sewed tight. Thus a man can put the bag over his shoulder, and the mouth would be wide open by his breast, the bag hanging by his side. The point to be guarded when picking apples in a bag are: Never allow a man to get the bag between himself and the ladder, so as to scrape on the rounds, or between himself and the limb. He must swing the bag back over his hip. When the bag is full it is emptied in bushel crates, which are scattered over the orchard by the trees. In turning the bag into the crates,

which must be done carefully, the crates should not be filled so full that in piling one crate upon another the fruit is bruised. This method of gathering is much faster than with half-bushel baskets, and is recommended for all tough-skin varieties of fruit. There are several kinds of picking bags made and distributed over the country, but the home-made bag will in most cases give superior satisfaction.

In picking apples, especially on large trees, it is very important that the men are taught how to handle ladders, so that a ladder will not get away and fall. Any man of ordinary strength and agility, by taking the second rung from the bottom with one hand and the fifth rung with the other, can soon learn to easily handle even 25 to 50-foot ladders. Now, in placing the ladder against the tree, a man should be very careful not to knock off the fruit, but to get the ladder at just the right angle, without too much weight against the tree, and in no danger of falling over backwards. The best plan is to pick the tree clear to the center as fast as the outsides are picked. That is, as soon as the ladder has been set two or three times on the outside, clearing this part of the tree, an opening should be found between the limbs where the ladder can be worked into the center of the tree and the fruit picked here with aid of the ladder. A man can pick apples much more easily and faster when standing on a ladder than when climbing around in the middle of the tree.

Some of the experienced growers follow the plan of picking the tree over twice on certain varieties, in order that the fruit shall be of good color and quality. This practice is applied on the red varieties, more especially as the fruit on the outside and tops of the trees will color quicker than that on the inside. In fact, those on the outside many times will be blown off by the wind before those on the inside will be colored. If the apples are picked off from the top and outside of the trees, it is astonishing what a week or ten days of dry sunshiny weather will do for those in the center of the trees. It costs a little more to pick the trees over more than once, but if one is growing fancy fruit it will pay a big percentage on its extra cost, as many more of the apples that would have to go out on account of color and uneven size at the next picking will go into the better grade.

There are numerous formulas for waterproofing canvas, one of which is as follows: In a glue pot or hot water bath mix half-pound yellow beeswax and one-half gallon turpentine. Apply one or two coats of this to the canvas and, when dry, paint with pure white lead and pure linseed oil, mixed rather thin. The wax has a possible tendency to rot the canvas, while the lead and oil will shed the water.

Remember that Bordeaux mixture is not intended to kill insects but to control fungus diseases.

Except in the case of potato beetle, arsenate of lead is better than Paris green. Two or three pounds of arsenate of lead to 50 gallons of water, makes an effective mixture. Always use twice as much lime as Paris green in spray mixtures to prevent burning of foliage.

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TRAPPING THE MINK AND WEASEL

By George J. Thiessen.

The mink and weasel are the most difficult of all the smaller animals to take in steel traps. The former, especially, has a very keen sense of smell, and an instinct even superior to the sly fox, in the estimation of some professional pelt hunters. To begin with then, let me say, too much care cannot be taken when sets are made for the mink, and considering all things, the best methods for amateurs to employ are those sets made in water, so the human scent can be destroyed.

Both the mink and weasel are fond of rough country. As a general rule the den of the first-named animal will be found on a small meandering creek, especially if the banks are choked with weeds, etc. The reason for this is evident when one considers that a stream such as I have described is ideal for the animal, giving it a place to hunt for its food unobserved. An open creek would not give it these advantages.

The weasel can be found almost any place. Usually they seek a place where there is plenty of game, and often go long distances in search of rabbits and similar food. In ploughed fields their tracks can often be discovered, in weed patches, around stone piles—in fact the animals are found where there is food and shelter.

If one will go along the small creeks early in the fall of the year and dig small pockets into the water near its edge, about a foot or eighteen inches deep, and then dash water into same so there is no trace of human odor—removing all signs, etc.—he will find that in many instances minks hunting for dens will occupy the ones which have been dug. This then will provide places for sets when the time comes to take the pelts.

Go along a small stream and find where a tile empties into it. At the mouth of this drain, set one or more traps. It does not matter whether there are signs of the animals about or not; the first one coming along will try to enter the tile and get caught. Use no bait of any kind.

Should the drain be partially stopped up or covered with a wire, permission can be obtained from the owner of the field in most cases to remove the obstruction. It should be explained that after you are through using the drain for trapping, the wire will be placed so that no animal will enter the tile and the trap—or traps—will prevent this when the set is made.

The natural foods of the mink are fish, meats, crawfish, clams, etc. About as good a common bait as can be employed is the flesh of the muskrat. Birds, too, sometimes give good results, but crows and hawks, are not good for attracting any fur bearer. Very frequently a good patent lure will be found excellent in drawing the mink and weasel. Fish oil—I described how it should be made in a previous article—is an ideal lure at times. If one bait will not do the work, change to another. What is good at one time or place may be worthless at another.

Under old bridges, especially those which have been made with stone riprap, are excellent places to look for the mink. Many times places may be found where the animal slides into the water and if traps are placed at the foot of these it will bring results. Use no decoys.

When the streams freeze over, often a hole may be chopped into the ice and kept from freezing by placing directly under it a sack containing coarse salt. The trap—or traps—ought to be placed directly under this opening in the ice and on top of the salt. The first mink coming along will discover the opening in the ice and in most cases will try to enter the water. Should the set be made properly and the weather be such that the salt will prevent the ice from freezing, the results are almost certain.

Minks, as a rule, are wanderers. The male usually will travel miles in search of food. The female, however, does not go so far, and rarely if ever goes farther than a half mile from its den.

If one can find a hollow log along the water, half submerged, place traps at each entrance way. No decoy is needed, for the first mink passing will try to enter the opening.

Frequently two small streams can be discovered that come together at a sharp angle. Between the two construct a small tunnel so that the water flows in it. At the entrance of this tunnel, on each side, conceal a trap. A mink passing will endeavor to enter the excavation in search of small fish, etc.

Many times places can be found along rocks, etc., lying near the edge of the water, where the animals pass. If one is clever, traps may be concealed here with good results. Be sure to remove all traces of the sets, such as stakes, foot marks, etc.

Land sets may be made for the mink also. These are very hard, and should not be attempted except by an experienced trapper, unless, of course, no other places for traps can be found. The traps must be perfectly clean, so concealed that they cannot be discovered by the keen fur bearers. Often, too, pen sets, similar to those that I described in a previous article on taking the skunk and civet, will be found good. Some of the sets for 'coon may be utilized also.

Warm rainy nights, especially if there is fog, is the best time to take the mink. The rain will wash away all evidences of the human scent, and will, to a certain extent, destroy the value of patent scents, fish oil, etc. These things should be remembered by the trapper.

Generally speaking, the weasel can be taken with the same sets that I have described for taking the skunk and civet. A good lure is almost essential, although frequently its tracks can be discovered leading into a place where sets can be made. One of the most successful methods for taking this little animal is to locate a den and then near by build several small pens, baiting with parts of a rabbit. Make trails with blood to and from the sets when no good scent can be had.

NOTE:—On fur lists the weasel is frequently quoted as ermine. The animals are brown in summer, turning to a pure white as the weather gets colder, with the exception of the tip of the tail which is black. Owing to the fact that a great many skins are not prime—that is white—but brown and "stained," they are not trapped extensively by the pelt hunters of the South.

THE FUR MARKET

By G. J. Thiessen

How is the fur market? Will prices go higher or lower? When should I sell?

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These, and, similar questions, are asked the writer every day. In this article he will attempt to forecast the market. Fortunately, this will not be purely guesswork, for the writer has access to information from practically every fur market in the world, so has something tangible to base his opinions on.

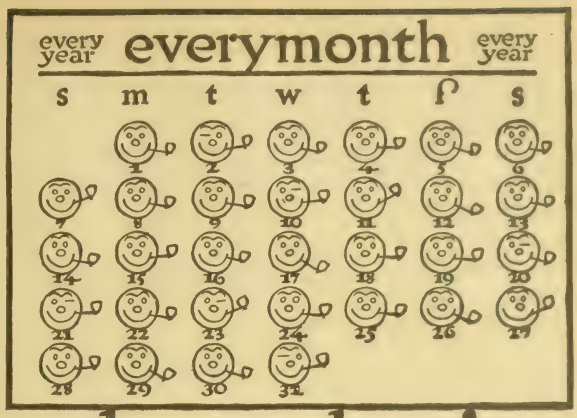
In the first place, the season is a peculiar one. No one expected it would start out so favorably for fur shippers. Due to Dame Fashion, the manufacturers practically cleaned out the stocks of fur which were being held, and began clamoring for more goods. The large dealers, following the tip, began early to get raw furs. One tried to outdo the other, and extreme prices were offered. But then when the manufacturers did not snap up their lots, some of them began wondering whether they had not better reduce their prices. Some did and the small buyer was forced to do likewise. This created a feeling of uneasiness, and at present the market is more or less unsettled. Some well-known houses have issued lower price lists; others have stood by their original quotations, and some even have boosted the prices they are paying. Hence, no one seems to know exactly what to do, each following his own judgment in regard to values.

The other day I discussed the situation with one of the members of a large fur company of Chicago and New York. He was very frank about the matter, and gave as his opinion that fur shippers, especially those with collections of early caught pelts, should dispose of their goods at once. He emphatically brought out the fact that, while the unexpected may happen, it looked to him as if prices would go lower. And that accords exactly with my opinion.

In the first place, early caught furs are desirable to the manufacturer at the season of the year when prime fur cannot be had. In order to keep his plant busy, he is willing to pay a premium on what he buys. But as soon as the first quality skins commence to arrive, the manufacturer loses interest in the unprime fur, as a rule, and if he buys at all it is usually at a lower figure than he would have paid early in the season. Since the dealer cannot get high prices for this class of goods from the manufacturer, he cannot pay the shipper as much. Hence, early collections, which are held for months, generally bring less money than if they were marketed earlier.

The heads of two other large fur buying firms aptly conveyed the condition of the market when they gave the impression that America was "fur crazy." Whether this favorable condition will prevail for any length of time it is hard to say. Dame Fashion is a fickle mistress and rules with an iron hand. There is no appeal from her verdict, but let us hope she continues to smile upon the fur shipper for he earns every dollar he gets. Watch the market closely; see if my advice is not good.

Particularly at this time of the year skunk sems in good demand. Muskrats, too, are holding their own, better perhaps than was expected earlier in the year. Mink and civet cat do not seem desirable, and none of the dealers are especially anxious to boost prices on these. In fact there are being held at present large quantities of the two furs mentioned which can be bought at cost, practically.



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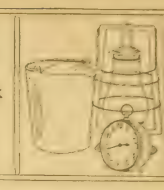
Dairy Problems

And Other Facts for the Milk Producer

By John Underwood



THE commoner teat troubles may be divided into three divisions: Warts, sore teats and blocked teats. Warts on the teats of a cow do not generally cause much trouble at first, but after they are well developed they tend to make the teat tender to handle. The best way I know of to get rid of warts is to tie a piece of waxed silk tightly around the wart as close to the teat as possible. After a few days the wart will drop off and should cause no more trouble.

The best time to treat for warts is while the cow is dry. For the warts that are too small to tie around with silk, an easy way of removing them is to touch them with a feather dipped in butter of antimony. This is very strong, and care should be taken not to touch the teat at all.

Sore teats are a much more difficult proposition, as milking opens the sores, and a cow in full milk cannot be laid off for a week to enable her teats to heal up. Many sore teats start by leaving them wet after milking, and when the cows are turned out into the lot or pasture the wind chaps aud cuts the teats. After milking is completed the teats should be thoroughly dried. Oxide of zinc ointment, applied after each milking, is one good remedy.

Here is a way that I have tried and found very successful. To one ounce of glycerine add one dram of boracic acid. Mix this in about one-half pint of warm water and put in a narrow jam jar. After milking put the teat in this mixture, holding the jar close up to the cow's udder, and let the affected teat soak for a few minutes. This mixture may be kept and warmed up, and used again and again. A little touch with a crystal of alum after this bath will help the more obstinate sores to heal, but care must be taken not to use anything that will cause the skin of the teat to wrinkle and pucker up when it heals.

Blocked teats are caused by a little ball of flesh inside. In nature these growths are very much like the warts on the outside of the teat. Some are only attached to the lining of the skin by a little string, and can be pushed out of the way by the insertion of a teat syphon. Sometimes they break off and come away of their own accord. They are always a bother, as they interfere with the flow of the milk, and moreover, make it very hard to strip the quarter clean. I have seen the more obstinate ones removed by the use of a large-sized milk syphon, with one side filed to a sharp edge in exactly the same manner as an apple is cored with a patent corer.

After being introduced into the teat it is slowly turned around, with the sharp edge against the lump. It is as well to do this with the right hand, and to hold the teat extended in the left hand. It is a simple little operation, and yet it is easy to lose the quarter in performing it. The syphon must be sterilized in boiling water before insertion, and every precaution should be used to insure absolute cleanliness. There will be a little blood come from the teat, and this should be milked out and the teat syringed out with a seven per cent mixture of boracic acid and warm water. It is best to remove the lump while the cow is dry. The lining of the teat will soon heal, so long as it is kept free from germs. This can only be done by keeping everything spotlessly clean. A competent operator should be the only one to cut away these lumps in teats.

IT PAYS TO BE KIND

The giving of milk is a part of the "great scheme of maternity." Did you ever watch a cow as she surveyed her calf for the first time? In her eyes is an expression of affection almost human, as she turns her head and looks tenderly upon the little animal while it draws from her body the subsistence of life. She will give to that calf the last drop of milk she has to give.

The love for her offspring is the power which makes it possible for her to increase the flow of her milk far beyond what it otherwise would be. The highest compliment that a dairy cow can pay any man is to believe that he amounts to as much as her calf. In just so far as the milker can take the place of the calf in the affection of the cow will she reward him at the milking

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hour. There is no surer way to render the cow unprofitable than to ill-treat her.

Everything about the environment of the dairy herd should tend to make the animals feel perfectly at rest at all times, and the most nervous one of the lot should know and love her master's voice. The dairy cow is a nervous animal in nearly every case, and it sometimes seems that the more nervous a cow is, the better she is at milking-time if she is rightly handled. But we must not extend kind treatment to the cows only. It must extend to every animal on the farm. The young calves should be taught early to trust the man who cares for them, and if he is not careful and considerate in handling them he may have cause to regret it forever.

The breaking of a young heifer to milk is never a difficult task if she has been properly handled from the start, and if her master uses patience and reason in handling her. The young heifer experiences a great change when she is milked the first few times, and we need not wonder if she is badly excited and kicks a good deal. Really I expect her to do this, and would be a little disappointed if she did not. Expecting it, and realizing that it is the logical thing for her to do, I am showing less sense than a man should possess when in his right mind if I lose my temper, and beat her for the very thing which I expect her to do.

We are prone to forget that the cow cannot reason, but that on the contrary her conduct is regulated wholly by instinct, and, forgetting this, we treat her as though she were a rational being, endowed with reasoning power like our own. The whole secret of handling dairy stock is to so treat them so as to develop in them the instinct that renders them kind and gentle, and inspire them with confidence in us.

LOCATION OF MILK IN THE COW

In the system of the dairy cow there are two kinds of glands: excretory glands and secretory glands. A good example of the excretory gland is the kidney. An excretory gland does not manufacture, but simply serves as a vehicle for transferring waste from the body.

The secretory glands are manufacturers. They take the raw materials from the blood and manufacture them into a special product. The mammary gland, located in the upper part of the udder of the cow, is a secretory gland. It takes the raw materials from the blood and manufactures milk.

The large veins seen under the abdomen of the cow do not contain milk, as a great many people suppose. They contain impure blood. This blood is returning to the heart. It has passed through the mammary gland of the cow, deposited the food material and absorbed the waste.

As fast as the milk is manufactured from the blood, it is stored in the udder of the cow. The milk is being manufactured all the time that the cow is fed and cared for. She works day and night. So far as known milk is not manufactured any faster during milking than it is any other time, but the process of milk manufacture continues, and is in proportion to the size and quality of the mammary gland, amount of blood and raw material supplied by the cow.

REMEDY FOR SELF MILKERS

The cow or heifer that milks herself has always been one of the troubles of the dairy farmer. Devices innumerable have been suggested for overcoming this habit, and I have tried several of them with varying degrees of satisfaction, but none have proved so successful as the one mentioned here. I will pass it on for the benefit of other readers of Farm News, who may have one or more self-milkers.

Get a good copper bull ring and two two-inch, and one two-and-a-half-inch iron harness rings. Then pierce the nose of the animal the same as you would to ring a bull. Slip in the bull ring, then slip onto the bull ring one of the two-inch rings, next the two-and-a-half-inch ring, and last the other two-inch ring. Close the bull ring and put the screw in tight. Now let her go. She will try and suck, but the extra rings will get mixed up with her tongue and she will soon give it up. The rings will not bother the animal in eating or drinking.

HARD TO DROP

But Many Drop It

A young Calif. wife talks about coffee:

"It was hard to drop Mocha and Java and give Postum a trial, but my nerves were so shattered that I was a nervous wreck and of course that means all kinds of ails.

"I did not want to acknowledge coffee caused the trouble for I was very fond of it. At that time a friend came to live with us, and I noticed that after he had been with us a week he would not drink his coffee any more. I asked him the reason. He replied: 'I have not had a headache since I left off drinking coffee, some months ago, till last week, when I began again here at your table. I don't see how anyone can like coffee, anyway, after drinking Postum!'

"I said nothing, but at once ordered a package of Postum. That was five months ago, and we have drank no coffee since, except on two occasions when we had company, and the result each time was that my husband could not sleep, but lay awake and tossed and talked half the night. We were convinced that coffee caused his suffering, so he returned to Postum, convinced that coffee was an enemy, instead of a friend, and he is troubled no more by insomnia.

"I have gained 8 pounds in weight, and my nerves have ceased to quiver. It seems so easy now to quit coffee that caused our aches and ails and take up Postum." Name given by Postum Co., Battle Creek, Mich.

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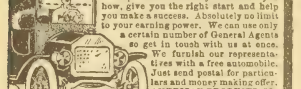

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Cash-Prize Farm-Work Contest

Winning Contributions Show That Farm News Readers Are Farmers Who Think and Do Good Work

The First Prize, $5.00, was awarded in this contest to Thomas M. Cisel, of Illinois. The Second Prize, $3.00, was awarded to Thomas Trumbo, of Virginia. Another article of merit was that of O. Ridout, jr. This contest will be continued for February, and the same prizes, $5.00 in Cash for what we consider the best article telling of any special effort on the farm, such as given below, $3.00 for the next best, and $1.00 for each other one used. Send contributions to Prize Contribution Editor, Farm News, Springfield, Ohio.

CULTIVATING WHEAT TO INCREASE THE YIELD

By Thomas M. Cisel, Illinois

In this, the southeastern section of Illinois, for a number of years our wheatlands have not been producing the crops they once did. While much has been done to keep up the soil's richness, the average yield has been about ten bushels to the acre. The poor return has discouraged many farm owners and renters, and there has been quite a falling-off in the acreage of wheat sown.

Investigation has shown that the principal cause of the poor yield has been the crusting of the soil, and to some extent, overseeding. I have found the following method to be very successful in increasing the yield, and make wheat once more a paying crop:

As can readily be noted, wheat usually is thrifty and looks well for several weeks after it is first up, or perhaps, well into the winter, if the early part of the winter is dry. It thrives just so long as the soil is loose. On old fields this condition remains only until the first heavy rain, when the soil becomes packed, and excludes the air, forming a crust that not only excludes the air, but prevents the wheat from rooting properly. To keep the wheat growing, we must rid the fields of this crust, and keep the surface of the soil broken up. This method of wheat cultivation consists of the use of a large small-tooth harrow.

First, the seed is planted in the best possible seed-bed. Following the first heavy rain the harrow is used just as soon as the soil is dry enough to permit. This harrow cultivation is kept up until early winter. Each time a crust is formed it is broken. The job is quickly done, as the largest harrow can be used, and a single stroke is all that is required. In early spring the cultivation is renewed just as soon as the soil is dry enough, and you soon see notable results, as the sun warms up the soil much quicker when the soil is kept broken up.

The harrow is used until the plants have the ground well covered. By this time they are well rooted, strong and vigorous, and will keep growing until the grain has ripened. It was found that overseeding was common, having the drill rows too near each other, and better results was obtained in using the drill with seed spouts three inches farther apart, giving more room for each plant to stool out and form fine, large bunches that will send up stiff, strong straw.

The grain of cultivated wheat is much plumper and of a finer quality. One would think that the harrow would ruin much of the wheat, but such is not the case. A light, wide harrow is used with the teeth set well aslant, so that it moves with sliding motion, yet penetrates enough to shatter the crust. It is also found that clover sown soon after the harrow has been used secures a lodging place in the cracks of the broken crust, and a fine, even stand will result. While this method may not be adapted to all wheat-growing sections, I am positive it is well suited to large areas where they have a soil of like formation of our clay land here in Illinois. This crusting of the soil is more pronounced on our fields which have been under cultivation for many years, showing that we must change our methods of farming to suit the changes that are being made in our soils.

Where this method of cultivation has been used, it has increased the yield

View of Mr. Cisel's harrowed wheatfield

some ten or twelve bushels per acre, paying well for the labor and time of doing the extra work.

MORE BUSHELS ON LESS ACREAGE

By Thomas Trumbo, Virginia

In 1914 I planted fifty acres of corn, and used 200 pounds of fertilizer to the acre, five tons in all, at a total cost of $75.00. This was put in with the corn in the rows with the planter. It was a dry spring, and the corn did not come up very good. I cultivated it four times. The dry spring was followed by a dry summer, and fertilizer caused the corn to fire. The fodder ripened before the ears got hard, and it only made 24 bushels to the acre, a total of 1,300 bushels.

When the crop was harvested, I concluded that it wasn't enough for the work it took to produce it, and so I made up my mind that this year I would try to get more corn off less acreage. I put out 30 acres, and used the same amount of fertilizer on the 30 acres that I did on the 50 last year. But I put it out with the grain drill instead of the planter. Having so much less ground to work over, I got it in better condition, and got the corn planted sooner. After I was thru planting, I top-dressed the soil with manure, and the corn came up fine, and grew well all the time. I plowed it four times, just as I did last year.

This year the ears ripened before the fodder did, and there was not near so much moldy corn. It made 57 bushels of shelled corn to the acre, a total of 1710 bushels, as against 1300 bushels the year before. The land I had in corn this year was no better than that of last year. From this experience I believe that if the average farmer did not have more than half the ground to work, he would raise more feed with a lot less labor. I am going to put up a silo next year, and try to keep more cattle—which means more manure, and more manure means better crops.

AN EXPERIENCE IN HOG RAISING

By O. Ridout, Jr., Maryland

Quite a great deal has been written lately about the hog as a profitable side line for the general farmer. I will try to tell briefly my experience for the last few years.

During the early part of July, 1912, I bought three registered Berkshire pigs, which were six weeks old, for six dollars each. Of course, buying them so young nothing was realized for over a year. Amount of sales to December, 1914, $110.50; to December, 1915, $77.00. Total $187.50, for those sold, and, allowing $100.00 for those I still have, making a grand total of $287.50.

The hogs were not fed anything but what was produced on the farm, except a small amount of middlings during the winter. They were kept on pasture in the summer, given a few ears of corn, and all of the fresh water they wanted. Sometimes they were given a little milk, if there was more than the pigs needed. The summer pasture consisted mostly of clover or sometimes a field of peas. During the fall they had access to a field of rape and kale, which put them in excellent condition for the fattening pen. Equal parts of rape and kale seed should be sown in August on a well-prepared seedbed. In the early spring rye makes a good green pasture to run on until the clover gets a start.

I would like to suggest that everyone who is going to raise hogs purchase purebred stock, if possible. They cost a very little more in the beginning and are lots cheaper in the end. By raising purebred stock one can often sell animals for breeding purposes where otherwise there would only be one market—the butcher.

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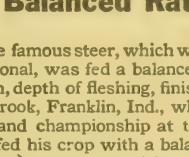

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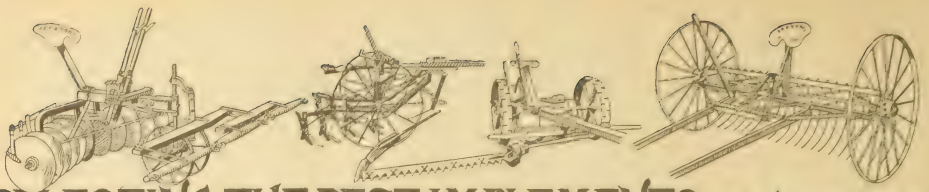

SELECTING THE BEST IMPLEMENTS

BY W. MILTON KELLY.

WE LIVE in an age of machinery, and the consequent reduction in the cost of production, in a large measure, determines the profit from the farm as well as from the mill or factory. It is good economy to have enough farm machinery to turn off the work at the proper time without delays, and to have machinery of the best quality, for a poor machine usually breaks just when it is needed, and entails a loss of time and money.

The cleaning of fields by the removal of stumps, useless trees and stones should precede the introduction of costly machinery, that the breakage and wear be reduced to a minimum. Careful planning and a little determination will often enable us to remove needless obstructions that have hindered tillage and cultivation for years.

We need to give more study to the question of farm machinery, and its adaptability to the types of soil on our farms. Too many farmers depend upon the advice of dealers and manufacturers without getting down to the real principles of the thing. In buying various tillage implements we should bear in mind the fact that tillage develops plant food as well as destroys weeds. In discussing this question, I am going to try and treat it from the standpoint of efficiency, and endeavor to explain some of the fundamental principles that are involved in proper cultivation of the soil.

Good plowing is the foundation of proper working of the soil. We make a mistake when we buy a plow constructed so that it has an exceedingly light draft. This is one of the recommendations that come from manufacturers and dealers, and it is from that standpoint, more than from any other, that most farmers select a plow. I do not look upon this as a proper principle. I believe that the value of a plow, or any other machine or implement, consists in its doing the thing we want it to do.

In comparing the work of the two types of plows, we invariably find that the plow with a heavier draft goes through the soil, and not only breaks it and turns a furrow, but in the process it grinds and pulverizes the soil into fine particles. The other simply cuts and turns the furrow over with the least resistance, resulting in a very smooth piece of work, but its effect upon the soil is not nearly as valuable as that of the plow that runs harder.

The more thoroly the soil is broken up, the more plant-food is made available, and more plant-food makes better crops. When we purchase plows we want to study their construction with that in mind.

The same consideration should be given to the selection of various kinds of harrows. I would by no means purchase a harrow just because it was a light-running implement. To do efficient work and move the soil to considerable depths, one must use plenty of horsepower. Another point that should be considered in selecting harrows is that of doing smooth work, and incorporating the vegetable matter with the soil to the proper depth. The function of the harrow is to still further reduce and refine the soil particles, because in every process of refinement we are getting at the plant-food which is still so abundant in all our soil.

On the average farm, where there are various types of soil, a disc harrow, a spring-tooth harrow, and a light smoothing-harrow are practical necessities. There is poor excuse for farmers to spend money in the purchase of commercial fertilizers and chemical plant-foods until they have first made available that which is plentiful under their feet. I am a firm believer in the use of fertilizers, but not until we have made available the most of that which is within reach of our own labor.

Good plowing is the foundation for good crops

In purchasing cultivators we should pay particular attention to their power of destroying weeds and conserving moisture, but we must still keep in view the object we had in the purchase of the plow and the harrows—the developing of plant-food—because in every stirring of the soil we make available more plant-food for the growing crop.

First, then, we want a cultivator that will reduce the soil thoroly, and refine the particles as deep as possible during the early portion of the season, both to develop plenty of available plant-food, and to destroy the weeds. But as the season advances, and the danger from drouths intensifies we must consider the principles that control the moisture in the soil, and plan our cultivation so that these losses may be cut down to a minimum.

In all soils there is an upward movement of water. The drier the conditions of the atmosphere and the higher the temperature, the more rapid becomes this upward movement of the water, and hence the more rapid the evaporation, unless we understand how to control this loss of moisture, and have cultivators adapted to the purpose.

One of the main objects of tillage in dry weather is to hold back, or keep down, this soil moisture. At least to so control it that it will pass through the plant that is upon the soil rather than pass out and be evaporated otherwise. Fine tilth, intense cultivation of the surface, will seal it over against escape of moisture, and retain it for the use of the plant roots. Good surface cultivation makes it possible to carry cultivated crops thru a dry time very successfully.

The yield of cultivated crops during a season of severe drouth depends upon the frequency and methods of cultivation. Early cultivation should be deeper, in order to develop large amounts of plant-food and destroy weeds. The later cultivation should consist of frequent and shallow cultivation. We want to make such a fine condition of the surface soil that it will form a mulch and the moisture as it passes up will be arrested and held underneath this mulch. The result is that the moisture is saved for the roots of the plants, and the crops go thru long periods of drouth in better condition. I firmly believe that the yield of every crop can be increased fifty per cent during dry seasons by correctly understanding these principles.

In buying a cultivator it is often necessary to buy one that has two sets of teeth, one for early cultivation to cultivate deep and destroy the weeds, and another set of narrow or spring teeth for shallow cultivation after the plant roots have become well started and keep a dust mulch on top.

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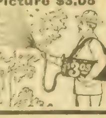

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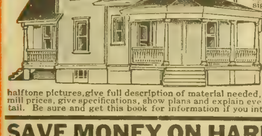

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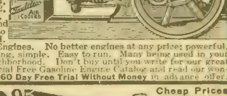

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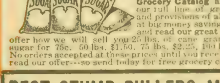

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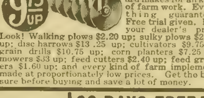

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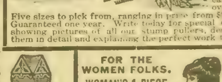

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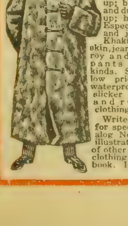

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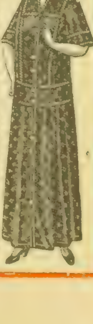

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Our Cash-Prize Poultry Contest

Facts Gleaned From Experience of Farm News Poultry-Raisers

The First Prize, $5.00 in Cash, was awarded this month to Mrs. Edwin Alphonso, of Missouri. The Second Prize, $3.00 in Cash, was awarded to Mr. John H. Rustin, of New York. The same Cash Prize offers for contributions to this department will be given next month. Remember, we will give $5.00 in Cash for what we consider the best contribution on the general subject of Poultry and Poultry-Raising, marketing, treatment of diseases, best methods of raising chicks, getting eggs, or any other phase of the Poultry business. For the next best we will give $3.50 in Cash, and $1.00 for each other contribution used.

RAISING BROILERS

By Mrs. Edwin Alphonso, Missouri

I use incubators for hatching. I have overcome their only fault, namely: Chicks drying and dying in the shell. I think my plan will be a great help to anyone using an incubator.

Three days before the chicks hatch I take the tray of eggs and dip them in a tank of warm water. I do this for three days. Then I take five tall cups, fill them with warm water, set one in each corner and one in the middle of the incubator under the tray. I do not open the doors again until the chicks are hatched and one day old. They are very wet, but soon dry off.

Another thing about incubator chicks: A great deal of bowel trouble is caused by letting them get chilled during the first few days. I have the brooders extra warm for a week before they are used, and after the chicks are placed in them let them get gradually cooler. I raise hundreds of little chicks every year to the broiler age. I commence setting in November, and keep it up until late in the summer. They are large enough to ship in six weeks or two months. I get from thirty to sixty cents a pound, shipped alive to St. Louis. I have purebred S. C. Rhode Island Reds. They can't be beaten in my estimation for quick maturing. I use an upstairs room in winter, and keep a fire in it, besides the brooder fire.

Several years ago I had a costly experience with cholera among my old chickens. I lost more than 600. I tried everything, and finally stumbled onto a good remedy. I gave each fowl one tablespoonful of linseed oil once a day until they were cured. It is the only remedy I use now, and it has been very satisfactory with me. For leg weakness and roup I use vaseline externally.

I think it such a comfort to raise chicks in brooders. No lice to bother with, and so easy to keep clean. I change the litter every day, and give the chicks one feed each day of commercial chick food, so they will scratch for it the rest of the day. The rest of the day they get a crumbly mash of cornmeal, wheat, bloodmeal and a little chopped onion, mixed with either sour milk or buttermilk. I have not lost a chick from bowel trouble, and they grow very fast. I avoid extreme changes in temperature, and, of course, keep everything dry.

I trapnest, and keep only the best layers. The culls are eaten, or shipped along with the roosters, for they are "swatted" from the flock as soon as the breeding season is over. For green food in winter I use onions, turnips, beets, etc. These roots are chopped fine and fed raw. It is very nice to carry in baskets of nice, fresh eggs, but my main money crop comes from the sale of broilers.

TOOK TIME TO PLAN

By John H. Rustin, New York

We thought about going into the poultry business a couple of years before we started, which gave us plenty of time to consider many things which were essential to success. There were many things to consider: the kind of houses to build; the kind of chickens (White Orpingtons); kind of incubators and brooders; kind of feeds, and cheapest dealers; kind of coops; kind of patent feeders; baskets for shipping eggs; boxes for live and dressed poultry; kind of stationery, and kinds of feed to grow for poultry.

We concluded that the open front house suited our needs best, because of our climate and the cost. We bought boxes of various sizes, and used the material in them to construct the sides of the building, using new lumber only for the roof. The roof was covered with a good grade of tar paper, and gave us five years of service. We used chicken wire for the front, with a curtain of burlap, which we used when severe winds prevailed.

We bought several combined incubators and brooders. As soon as a hatch came from the incubator we put the chicks upstairs in the brooder, which is heated from the waste heat from the incubator. When the second hatch comes off, we remove the first hatch to fireless brooders, which we make from boxes, with cotton mats to fit. We find this kind of a brooder very satisfactory in rearing strong, healthy chicks. One point with this kind of brooder is to keep from crowding the chicks. This can easily be done by the use of wire or board runs. After the chicks are a few weeks old we put them in coops with open-wire fronts, and let them have free range.

When large enough to tell the sexes we separate them, putting most of the males in condition for the market, and keeping the best for breeders. We find the pullets develop much faster this way, and we can give them a better grade of feed and extra care. The breeding birds we keep in separate pens, and keep them busy until time to mate them up. During the breeding season we feed a great deal of green food, and feed the males separately.

Later in the day we feed a dry mash, with corn to fill them up at night. We feed the mash in home-made hoppers, the chickens picking thru the slats, and

have practically no waste. Our mash is made up of the material which gives us a balanced ration, with some ground bone or meat scraps. To start the baby chicks we use oatmeal, bran with milk, and fine grains, and some sweet stale bread.

Before sending poultry to market we keep them in close quarters for two weeks, feeding milk, plenty of cornmeal, whole corn, etc. It doesn't pay to market skinny fowls, when a couple of weeks will probably double its value. We favor the incubator chicks as against the hen-hatched, because without lice the chicks seem to do better. Cleanliness is the gospel of the poultry business, and he who follows it is much surer of success.

TO MAKE POULTRY PAY

By L. Bentham, Indiana

To make poultry a success a man must be an expert in the management of fowls, have good business judgment, with enough business training to make him accurate, methodical and prompt in his work and dealings.

Build poultry houses, if possible, on a gentle slope facing south or southwest. It is desirable that the buildings receive sunlight as long as possible on winter days, and be sheltered from cold winds. A house placed where it does not get the sunlight is unfit for fowls.

A sandy soil suits poultry best. A heavy wet clay soil is most unsuitable, and a soil containing alkali is to be avoided, because of its bad effect on the skin and plumage.

The roosts should be placed low down and be all on the same level. Fowls of the heavy breeds cannot fly to a high roost, and fowls of all the lighter breeds often injure their feet by flying from a high roost to the floor. The object of having all roosts on the same level is to prevent fowls from crowding one another from the roosts as they do when the roosts are on different levels, and the fowls are trying to get on the highest.

Dropping boards are a great convenience, but must not be neglected, for if droppings are allowed to accumulate the boards become saturated with liquid manure, and are apt to cause disease.

Don't forget to keep a box of shells and grit where the hens can get it at all times.

As eggs are similar to lean meat, in feeding for egg-production you should feed a comparatively large amount of nitrogenous material. This is best secured by feeding mixed grains. Succulent feeds, like green grass, cut and steamed clover and alfalfa hay, roots, etc., and also some kind of meat. In the spring and summer months hens at liberty consume an enormous quantity of bugs, worms, flies, etc., and in feeding for egg-production in winter a substitute in the form of ground bone, meat-meal, beef-scraps, etc., should be provided.

Clean fresh water should be furnished the hens constantly in mild weather. In winter it should be given three times a day, and warmed if the weather is cold. Plenty of dust material should be provided for the use of the hens in winter. This is one of their ways of freeing themselves from vermin; hence a good supply of road dust should be stored in summer for use in winter.

Almost all large poultry-raisers now use incubators in which the eggs are hatched, and brooders in which chicks are kept warm after hatching. The advantage of the incubator is that chicks can be brought off early in the season before hens are inclined to set. Then a large number of eggs can be hatched at a time, lice can be entirely avoided, and the work of caring for a large number of chicks in brooders is much less than that required for an equal number of chicks running with hens.

Young chicks should not be fed until about thirty-six hours after they are placed in the brooders. Stale bread soaked with milk and squeezed dry, may be fed for the first day or two, and rolled oats, boiled rice or wheat added on the third day. For the first three or four days they should be fed a small amount four or five times a day. Do not overfeed at this time, as digestive disorders are easily brought on, and large numbers of chicks will die.

Johnnycake, millet seed, cracked wheat and cracked corn may be fed in small amounts scattered in the litter on the floor. Hard-boiled eggs, ground up shells and all, and mixed with about six times their bulk of rolled oats, may be fed sparingly, and from the tenth day they should be regularly fed some form of animal food. Chickens which acquire the habit of feather eating may be cured by applying a mixture of vaseline or lard and powdered aloes on the old feathers near the spot which has been picked bare, and also on the new feathers as they come out.

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Every Reader of FARM NEWS, and all members of their families are invited to play this game. It is open to all. There is no required entry fee. Pleasure and profit for you in the Music-Titles-Picturegame which is being primarily conducted by FAMILY MAGAZINE, but FARM NEWS has arranged so that its readers can play the game also. Spend just a few minutes of your spare time, or in the long winter evenings get the family around the table, and play the game. It is simple and interesting, and the $5,000.00 in cash will positively be awarded. Absolute fair play is guaranteed to all. You have just as good an opportunity to win as anyone. Now today start to play the game.

Music-Titles-Picturegame consists of a few easy, fascinating pictures, for which you are to find titles of songs and of other musical compositions. To further aid you a list of titles (called the Catalog) has been issued, and in this Catalog you will find all the titles you can use in the game. Simply get the pictures and then go through the Catalog and pick out the titles you think best fit the pictures.

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Can you think up song titles to fit them?

Wouldn't "Columbia, the Gem of the Ocean" fit the first picture best! You see a woman standing in the ocean with the word "Columbia" on her, and a man standing on shore saying "She's a gem". It fits the picture suitably doesn't it. How about "Waiting at the Church" for the second picture? See how easy the game is. Simply picking out from a list of titles the best ones you can find to the pictures. That's all there is to the Music-Titles-Picturegame and those who submit the greatest number of best titles to the pictures, will be awarded the $5,000 in cash. Now today fill out and send in the coupon on the next page and play the game for all you're worth.

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This is How to Play the Game: Suppose the four object lesson pictures shown you herewith were four of the actual pictures in the game. The first one undoubtedly represents the title "After the Ball"; the second one "Hearts and Flowers". Now see if you can find in the lists of titles below the titles to the other two pictures. If you can, then you must start in this game today, and play your way to your share of $5,000 cash.

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After the Ball
Barbara Allen
Calvary
Columbia the Gem of the Ocean

Dearie
Ever True
Fortune Teller, The
Garden of Roses
Hearts and Flowers

Lead Kindly Light
Mammy's Song
Mary Had a Little Lamb
Nancy Lee
Old Oaken Bucket, The

Paddle Your Own Canoe
Row, Row, Row
Slumber Song
Waiting at the Church

Now you know how to play the Music-Titles-Picturegame. Easy, isn't it. Just fitting titles to pictures. The full rules, free on application, will be sent you to show you how to compete without one cent of expense, but you should accept our liberal subscription offer below and start to play the game at once. Don't delay.

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Crop-Growing Systems for Stock Farms

By Lester J. Meredith

THE increasing demand for beef, pork, mutton and dairy products is quite in harmony with the newly inaugurated movement for the conservation of soil fertility. That the time has come when the cornbelt farmer can profitably feed his crops to stock there is little doubt. Our one hundred million people need the meat; our farms need the soil-building crops and the resulting manure.

Before an attempt is made to feed out the products of the farm to stock, cornbelt farmers should plan to make a wider and more economical use of grass and forage crops. Permanent pastures should be established, and more acres of clover, alfalfa and grass should rotate with corn and small-grain crops. The prevalent idea that grass and forage crops are not adapted to high-priced land, is due to the fact that few farmers keep any record of the cost of producing the various crops, and hence have no accurate means of knowing what is profitable and what is unprofitable. Another reason is, because very few farmers are in a position to make the most efficient use of grass and forage crops in maintaining breeding animals and young stock. The man who raises grain primarily to feed unfinished animals for market cannot make as profitable use of these valuable crops as the man who has breeding animals and young stock on his farm at all times during the year.

Much of the productive grain land may profitably support grass and clovers at least one-half of the time. Farms devoted to the growth of grass, forage crops and stock-raising are noted in their respective localities for their harvests of grain. Even in the most fertile sections, with climates adapted to general farming, the stock farmer thus competes on equal terms with the grain farmer, and is most prosperous of the two. The separation of cattle and sheep breeding and fattening into two enterprises has delayed the work of evolving a system of constructive stock farming in the cornbelt.

The closing of vast expanses of range, together with the increasing demand for beef, pork, mutton and dairy products, is causing the owners of farms in the Central West to realize their opportunities in the production of meat and dairy products. Under a constructive system of farming they can make use of one-half of the land for grass and forage crops, and yet secure greater returns from stock than from their present diminishing crops of grain. By adopting cropping systems to the character of their farms they can gradually build soil fertility and add to their profits.

In evolving a system of stock farming, carrying the largest possibilities and insuring the best returns, experience shows that we must not keep animals merely to consume the wastes from our present system of grain growing, but we must grow a variety of the kinds of food best suited to their needs. Farmers keeping stock should plant to raise the kinds of feed adapted to their needs. Where these feeds are grown rotation is unavoidable.

Fortunately the crops best suited to the needs of the stock are the very ones needed to return nitrogen and humus to the soil. By growing clover, alfalfa, grass and small-grain crops in rotation, and converting them into meat and milk, it is possible to maintain or increase the fertility of the land. Stock farming provides for the growing of soil-improving crops and feeding them out on the farm. In this way more than two-thirds of the plant-food removed by the crops is returned to the soil in the form of manure.

One of the most powerful agencies for increasing fertility is the growing of grass and legume crops in rotation with other crops. The value of the crop rotation in building up soil fertility has been recognized for years in the older agricultural regions. Getting and returning a basic supply of humus and nitrogen, or in other words a soil to do business with, is what concerns us all. We must adopt a system which will store fertility, while it returns a profit from sustaining stock.

Crop rotation should accomplish three objects of prime importance on the stock farm: It should provide nearly a balanced ration for the stock; it should secure nitrogen from the air, and add vegetable matter to the soil. It is possible to so plan and manage a rotation of non-leguminous crops that the supply of vegetable matter in the soil will be maintained in sufficient amounts to keep the soil in condition to produce profitable crops. But with such a system we must ultimately buy considerable quantities of nitrogen in the commercial form, and purchase protein feeds for our stock.

In a crop rotation of corn, oats, wheat and timothy, conducted at the Minnesota Station, it was found that the vegetable matter in the soil was kept up for ten years, but during the same period the nitrogen content of the soil diminished considerably. The crops also decreased on this plot, but on an adjoining plot, where clover took the place of timothy in the rotation, the soil was richer in both vegetable matter and in nitrogen at the end of the decade than at the beginning. This proves to us that in every system of constructive farming we should grow one or more leguminous crops in our rotation.

If the rotation is properly planned and carried out, and the crops fed out to stock the soil will be richer, so far as production of crops is concerned, than it was before the plow touched it. If we feed out the grasses, forage, straw and grains on the farm to stock, and make good use of the manure crop, it is possible to maintain the supply of humus and add plant-food. If we grow alfalfa and clover in rotation with various grasses and grain crops, the nitrogen problem will take care of itself. Barnyard manure, and green manures plowed under, while decaying will liberate considerable amounts of potassium. Phosphorus is the one element that is usually deficient on the general stock farms.

By seeding a portion of the farm to permanent pasture, and getting alfalfa established, we can secure a good start toward successful live-stock farming. By adopting a rotation of clover, timothy, corn and small grain crops on the cultivated area, we may not only maintain an adequate supply of vegetable matter, but we may also secure nitrogen—the most costly plant-food—from the air. Keeping the soil well filled with vegetable matter is just as important as obtaining nitrogen from the air.

In adopting a rotation of crops to furnish feed for stock, and maintain an adequate supply of nitrogen and vegetable matter in the soil, it would perhaps be well to separate clover and grass in our minds, the first being a more active factor in soil building, yet not furnishing us with a substantial base of humus for so long a period.

Many agricultural experts advise the three-year rotation of clover, corn and small grain, but it is my judgment that better results will be obtained by seeding timothy with the clover, and allowing the mixed mowings to occupy the land two or three years. In this way the cost of seeding is minimized, and a heavy grass sod is obtained that will last well through the rotation of corn and small-grain crops.

If our real aim is to make the clover and grass crops do their most efficient work for us, the best place to apply the manure is on the grass lands. In this way it helps to grow more food for the stock to eat, which means the return directly to the land of larger quantities of manure. Grass land in this manner will feed stock to advantage and be a more certain crop. The clover would be encouraged to endure, and the general quality of the hay would be excellent, and at the end of two or three years we would have a better, thicker and richer sod, which would be of greater value to plow under than if the ground was depleted of a crop of clover and then plowed for corn.

Any constructive system of stock farming provides for the most economi-

(Continued on Page 37)

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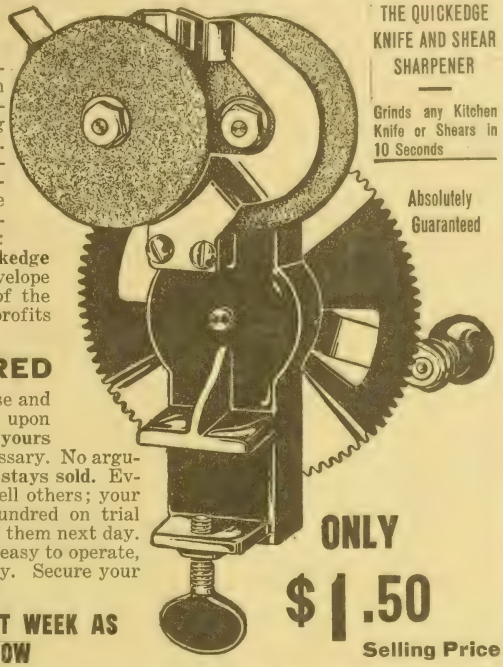

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Varieties in the Garden

Seed Catalogs Show More and More Each Year and Many are Worth a Trial

By Charles H. Chesley

THE seed catalogs present an almost endless list of varieties, and the number seems to be growing greater each year rather than less. Most gardeners who have been in the business a number of years have their favorites, and know about what to order. In our own case we plan on trying a few of the new things each year, but confine the main plantings to standard sorts. Gardeners who are new at the business may safely select from the varieties mentioned below. Unlike fruits and berries, many varieties of vegetables succeed over a wide stretch of territory.

Of tomatoes Earliana is best for the early crop, Stone and Livingston's Globe are good late sorts. Dwarf Champion occupies less space in the garden, and the fruits are smaller. Neapolitan is one of the best peppers, and rather earlier than Ruby King, also a good sort.

For early radishes the White-Tipped Scarlet and Scarlet Globe are best. Icicle is also a good early variety. Chinese Rose is the best for winter. Sow the last named in early September. Two good beets are Crosby's Early Egyptian for the early crop and Detroit Dark Red for winter. Eclipse is another good sort for early or late planting. The White Milan turnip is good for early or late sowing. We also like the White Egg for late planting. For keeping in the winter the Yellow Aberdeen and Sweet German are good varieties to plant. These need not be sown until almost midsummer.

Corn and tomatoes of a high edible and marketable quality

There are several favorite sorts of sweet corn, but none can equal in quality the Golden Bantam. There are other kinds a little earlier, but not so good. Early Concord is a good kind to follow the first early, while Stowell's Evergreen is the standard late variety.

Nott's Excelsior and American Wonder are good peas to plant for first early, while Gradus, a taller kind, comes a little later. For a late crop we have found nothing better than Telephone. Champion of England is also good. Child's Morning Star is a reliable sort for the first planting. Yellow Six Weeks and Burpee's Stringless Green Pod are excellent early beans for stringing. They may also be planted at intervals of a week or ten days up to July, and be had in succession all summer. Any of the early varieties of large pole limas are safe to plant. We prefer the running sorts, but Burpee's Bush Lima is good. Kentucky Wonder is the standard pole bean and Dwarf Horticultural is the best all-round sort for early shelled beans.

Of onions we prefer the Yellow Globe Danvers and Southport Yellow Globe. Southport Red Globe is the best red onion. Seed of these should be planted in drills early in the spring. Prizetaker is a larger onion, but it is necessary to start the plants in a hotbed and transplant to the garden the latter part of April.

The Hubbard is the best winter squash, unless quality is the main requisite. In that case we would plant Burpee's Fordhook. Of muskmelons Emerald Green and Paul Rose are excellent and Rocky Ford is standard. Kleckly Sweets is a delicious watermelon. For the earliest cucumber, we know of nothing to take the place of Early Russian. Davis Perfect is a comparatively new sort that is best for main crop. Boston Pickling is standard for making pickles.

Early Jersey Wakefield is as good as anything for early cabbage. Burpee's Surehead is a safe kind to plant for late fall and early winter, as is also Maule's Prize Drumhead. For quality in this vegetable we plant the Drumhead Savoy. Danish Ball Head is the kind for long keeping, but it does not do well in limestone soils. Early Snowball is the best cauliflower. Danish Prize is the best variety of Brussels sprouts. Nothing can compare with Golden Self Blanching in celery—that is, in the home garden, where facilities for blanching are not of the best. Danvers Half Long is standard carrots.

HANDLING OLD GARDENS

Sometimes we find old gardens, which have been planted over to the same crops for many years, that are not giving the best results. There is danger, also, from using nothing but stable manure on the garden. Soil thus handled usually becomes infested with vari-

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ous maggots and insect pests after a number of years. The elements necessary for plant growth also get out of balance and the result may be a tall top growth and poor formation of roots and seed. This is a symptom of excessive nitrogen. Barnyard manure contains a larger proportion of nitrogen than of other elements. Potash is also abundant, but it is in a form not readily available. A soil that gets into the condition where potatoes will "run all to tops" simply needs correcting. It is out of balance. The simplest way to do this is to apply acid phosphate at the rate of 800 or 1,000 pounds to the acre. Put this on in the spring after the garden has been plowed and harrowed, and rake or harrow it in. The fertility is not lacking in such gardens, but elements other than nitrogen cannot be readily obtained by the plants. Phosphorus and potassium are largely concerned in furnishing the starch content of roots and seeds. When these elements are released by the acid phosphate, bumper crops are the result.

Manure should be applied to gardens in the fall or winter. A good way is to spread it thickly over the ground, and leave it to be plowed in the spring. New manure applied in the spring is not desirable for gardens. Hen manure spread on in the winter makes an excellent garden fertilizer.

We know a man whose garden was formerly a muck soil. This was sweetened by the application of lime, and every third year a thin covering of fine sand is spread on in the fall just before the ground freezes. This doubtless helps to make the soil easier to work and, with annual applications of manure, keeps it in fine condition.

The best method of treating a garden that has become badly infested with insects, is to sow it to clover and grass, and use another location for two or three years. Indeed, the farm garden will be easier to take care of from the standpoint of insects and weeds if two sites are used, keeping one in sod for two or three years, and then changing to the other.

GARDEN HERBS

Very few gardens have a good supply of herbs for culinary purposes, yet most kinds are easily grown, and should be considered when planting the garden this spring. Europeans make much more of such things than we do.

Sage and thyme are similar in their manner of growth, being propagated either from seeds or layers from the parent plant. The uses of sage are well known. Thyme makes an excellent seasoning for soups and boiled meats, the buds and leaves being used for the purpose. Tender tops and shoots of summer savory are often mixed with thyme and sage, or perhaps with majoram. Summer savory is grown from seed each year.

Another kind, known as winter savory, is a perennial, and will live in the ground year after year, and furnish a lot of flavoring and garnishing. Majoram can be grown from seed planted in drills, and the plants thinned to stand two feet apart. It is the favorite dressing for fish, but is also used in meats and soups.

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Maladies of School Children

By Leonard Keene Hirschberg, A. B., M. A., M. D.

No sooner are the summer ailments of August over; hardly are the stomach troubles, the dysenteries, and the hot weather dangers behind the mother of young children, than the dreaded contagions of school life confront her. With the Scylla of cholera infantum safely surmounted, there stands the more formidable Charybdis in the foreground. Thus childhood's happy hours are filled with maternal troubles one after another.

Luckily, or unluckily, rather, few mothers cross the gulf before they come to it; in the spring their fancy fails to remind them of preventives for summer complications, while in the hot months they are too busy to think of September and school life. Yet it is worth more than a thonsand pounds of attempted cures, to prepare the six or seven year old youngster for the dangers that he is about to encounter.

It may, truly enough, be averred that hundreds of thousands of children go (have gone, and always will go) to school for the first time each year without any serious consequences to them, but such complacent facts are not a jot different from saying that only a dozen persons catch smallpox in every ten thousand who are exposed to it, or that only one man is struck by lightning during every storm that beats down upon half a million people.

Yet it may be most emphatically asserted that if this half million of persons knew one safe, sure, and perfect way to avert a stroke, each and every solitary mortal that ran into a thunder shower would hoist that petard of protection at once. And why? Because no one knows who of the great number will next be smitten by Jove's bolts.

Yet these are the very persons who have measures at their fingers' ends by which the few children who die or who become invalids for life, can be saved from such direful calamities. Because, however, only a few children in a hundred thousand thus succumb, they point to that fact as a reason for taking the risk and not bothering. Yet your children, dear mothers, may be the very ones that will become tuberculous, hunchbacked, round-shouldered, hollow-chested, insane, anaemic, or even killed by your indifference; your well-satisfied omission of activity; your smiling tolerance of "things as they are."

Though nine of the children of your next door neighbors may escape St. Vitus dance, tonsilitis, diptheria, carious teeth, pyorrhea, and the other ills that school children are exposed to, your child may be the very one to fall a victim to these dire contagions. Why, then, do you stand aloof and, as it were, keep your hands behind your back when so much may done in the way of safeguarding children from these unnecessary infections? There is not a bit of justification either in the feminine idea that "children must catch the measles and other babyhood maladies, and the sooner they get them the better." No more pernicious fallacy is current among the people—unless it be the fatal error of blaming all such diseases on "teething."

A wise mother rears most of her children without scarlet fever, measles, mumps, whooping cough, or the other "catching" diseases, and a well-managed public school system, with diligent medical inspectors, is able likewise to eliminate practically everything, from the itch to the mange, from ringworm to pediculosis, from diptheria to measles. The curious blindness of American motherhood to the great dangers of the supposedly least dangerous of these disorders, to-wit: measles, is responsible for much of their credulity and false sense of security. Measles, be it remembered, is not the trifling ailment that women consider it. The reports two years ago show that 6,598 deaths among children occurred from measles. In every nine thousand well children one will surely die of measles, and it may be your child—who knows?

Furthermore, among every nine thousand children who are hale and hearty, one will surely die of scarletina, one of whooping cough, one of measles, and another one of either acute rheumatic fever, St. Vitus dance, mumps, tonsilitis, bronchitis, or the other complaints of childhood. Yet all of these maladies can be prevented, particularly in the school rooms, where many of them are contracted.

Flies are often destroyed by setting free among them a fatal bacterial contagion. Prairie dogs, mice, chipmunks, wolves, and other pestiferous creatures are killed off by the hundreds, by sending one of their number infected with microbes to run at large in their midst. Those they reach succumb to the contagion. It is a matter of fighting fire with fire. The same effect is

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brought unintentionally, but just as destructively, to children, when a child just recovered from measles or scarletina is despatched off to school. The consequences to the other children are often just as appalling as setting a match to one edge of a dry prairie.

Yet most mothers are only too prone to hasten the return of a convalescent child to school, with an utterly heartless, selfish disregard to the welfare of the other children. Still another group of parents jeopardize the health, lives and future of their own, as well as other children, by contriving to send a youngster to school with watery eyes, running nose, discharging ears, weeping sores, open wounds, ringworms, eczema, decayed teeth, large tonsils, sore throats and adenoids. You may be assured that any mother who does these things, and school teacher that overlooks them, or any educational department that is not prepared to meet such a condition will be punished a thousandfold by seeing invalids, the lame, the maimed, the blind and the halt many years later. Each child thus neglected in the classroom, means a score of defective grownups in adult life.

Mothers should not depend upon the medical officers appointed in schools, to examine the eyes, ears, noses, throats, bones, and vital organs of their children. The best physician in the world becomes inevitably careless after he has grown fatigued from the examination of a dozen children. Thereafter, all of the hundreds who must be searched for lurking pus, deformed bodies, defective throats, and the like are passed over perfunctorily and hastily. It is beyond the bounds of human resistance for medical inspection officers to give the thirteenth child the detailed examination to which she and the other children are entitled. Therefore it behooves a wise mother to have not only her own child watched by her own doctor, but to have her family physician casually drop in among the other school children from time to time. This is permissible everywhere, and your doctor who has the interest of his patients at heart, will quickly recognize lurking evils that were not present at the last visit of the school doctor.

Pure air, pure food, pure water, pure teaching and supervised muscular play at recess, are all necessary for the health of the school child. But all of these are less important than that each and every school child should be clean in a medical sense. This kind of cleanliness means that no pus or inflammations should be present in any part or cavity of any child's body. If there are three thousand clean and healthful children in a school, and only one child with a running ear or a slight cold, all of the other children are in danger of even more serious troubles than the child who has the trifling ailments.

It is the practical fact illustrated by the old copy book story, namely, one poor apple in a bowl with a hundred sound ones will not be made sound itself, but most of the apples will grow rotten from the molds that cause but a slight decay in the one bad apple.

KITCHEN KINKS

Apples cut in irregular blocks bake more quickly in a pie than thin slices. When piled in a pie there is more chance for the heated air to circulate through the fruit, than when it is packed in thin slices.

One-fourth teaspoonful of soda added to the water in which cabbage or onions are cooking, will help to prevent strong odors. Cook them uncovered. They will retain their natural color better.

To prevent the drops of liquid that sometimes appear on a meringue, let the pie or pudding become slightly cooled, before putting on meringue. Brown in a slow oven.

If cookies are baked on the bottom of inverted dripping pans, they will keep from burning on the bottom and are more easily removed.

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Crippled Children

Six year old Marlen Ohman, Deming, New Mexico, came to the McLain Sanitarium Nov. 25, 1913, with a deformed foot and limb as a result of Infantile Paralysis. Deformities of the limbs, spine and body generally, frequently occur from same cause, becoming more pronounced as child grows older. What may be accomplished in such cases at this Institution is made apparent by the accompanying pictures and the mother's letter which follows:

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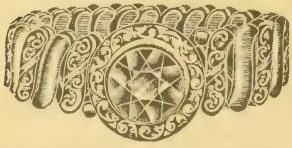

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Our Fashion Department

Winter Style Book Sent for 2 Cents if Ordered With Pattern

Send all orders for patterns to FARM NEWS, Pattern Department, Springfield, Ohio.

Description of Patterns Shown Above

7552 Ladies' Waist—Cut in sizes 34 to 42 inches bust measure. This plain waist may be used for soft materials, such as silk, charmeuse and crepe de Chine. The collar may be buttoned high or rolled low.

7574—Girls' Dress—Cut in sizes 6 to 14 years. The dress closes at the left side of the front and the sleeves may be long or short. There is a pretty round collar at the neck and cuffs finish the long sleeves.

7556—Ladies' Dress—Cut in sizes 34 to 44 inches bust measure. This dress has a plain waist with side front closing and a separate shield and collar. The skirt is cut in two gores and is joined to a yoke.

7555—Girls' Dress—Cut in sizes 6, 8, 10, 12 and 14 years. The skirt is of plaid material and the blouse is of plain material. The skirt is cut in three gores.

7547—Ladies' Waist—Cut in sizes 34 to 44 inches bust measure. The closing is at the back and the sleeves may be long or short. The sleeve is finished with a pretty fancy cuff.

7534—Ladies' Dress—Cut in sizes 34 to 42 inches bust measure. The closing is at the front and the three gored skirt may have high or regulation waistline.

7553—Ladies' Skirt—Cut in sizes 22 to 32 inches waist measure. It can be made with or without applied yokes. High or regulation waistline may be used.

7581—Girls' Middy Dress—Cut in sizes 6, 8, 10, 12 and 14 years. The blouse is separate and the plaited skirt is attached to an underwaist.

7571—Ladies' Skirt—Cut in sizes 22 to 32 inches waist measure. The skirt is cut in five gores and has two small plaits at each side of the front.

7577—Ladies' Apron—Cut in sizes 34 to 44 inches bust measure. The apron closes at the front and may be worn with or without a dress underneath it.

Price of Any of the Above Patterns 10 Cents Each

STANDARDIZED DRESS FOR WOMEN

Attempts to improve and standardize women's dress should avoid such foolish extremes as the adoption of men's costumes on the one hand and the purely decorative on the other. Both lead to a disregard of important considerations of usefulness, hygiene and modesty, according to Miss Ethel Ronzone, of the Missouri College of Agriculture, Department of Home Economics. Miss Ronzone deplores the fact that fashion decrees that women shall buy expensive garments, ill adapted to their work and hygienic needs, only to find it necessary to replace them by others, no better, before they are worn out. Altho not entirely free from the disadvantages of changing styles, men who buy with reasonable judgment are much less likely to find their clothing so out of style that they hardly dare wear it, simply because the fashion has changed. They are usually able to use their garments until wear makes new ones necessary.

Standardization of dress means the adaptation of clothing to all the needs of all women on all occasions. Yet the design, color and texture offer a wide range of choice, to suit the individual taste. The dress must be practical and hygienic and economical.

Standardized dress presents two problems: (1) The determination of the design best adapted to use in making the garments that will meet the common-sense needs of women, and (2) the introduction of such garments into general and permanent use. Miss Ronzone's plan includes the ultimate standardization of the entire wardrobe, including underwear, shoes, hats, gloves and coats, but only the dress has yet been designed. It is hygienic and comfortable, permitting full freedom of motion at work or at play, and is without trimming or excessive material.

The skirt is made in four pieces, with a seam at the back, and opens in the front. This allows for ample width, 2½ to 3 yards, depending on the size of the person. It is very simple to make, because only one seam needs staying, and in order that it be made perfectly hygienic and comfortable when worn without a corset, it is suspended from the shoulders by means of an underwaist made of some thin material. The waist is a blouse, falling down over the hips, and held in slightly at the waist by a loose belt. The fullness can either be fixed into a belt, the lower part being in the form of a peplum, or it may be held in loosely, as in a Norfolk blouse.

These garments have been worn by certain members of the faculty of the University of Missouri and other residents of Columbia long enough to test their usefulness and practicability.

Bulb beds ought to be mulched with coarse, strawy manure as soon as the ground begins to freeze.

Hubbard squashes are among the best varieties to keep through early winter. Baked and served like sweet potatoes they are a very delicious vegetable.

Clean straw, or other loose, light material, free from weed seed, put on about 3 or 4 inches deep, is the best mulch for the strawberry bed.

Cabbages are excellent winter feed for poultry. The less salable heads should be pitted in the field to protect from severe freezing, and used for chicken feed.

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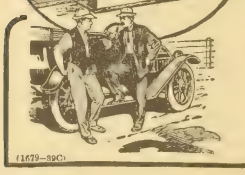

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2. Black for machinery—Mix by heating 4 quarts boiled linseed oil; 3 ounces asphaltum; 8 ounces burnt umber. Thin with turpentine while cooling.
3. For pipes and boilers—Lamp and linseed oil or asphaltum varnish.
4. Fireproof, black—Asbestos 98 parts, black oxide of manganete 98 parts; black carbon, 1 part; boiled linseed oil 32 parts. Thin with turpentine.
5. Fireproof, red—Asbestos 98 parts, Venetian red 98 parts, linseed oil 32 parts. Thin with turpentine.
6. Fireproof, white—Asbestos 98 parts, zinc white 98 parts, zinc sulphate 24 parts, refined linseed oil 17 parts, turpentine 2 parts. Thin with turpentine.

The asbestos used should be free from organic fibers and finely powdered.

BRAZING COMPOUND

Flux for general purposes use 1 part borax and 2 parts boric acid, dissolved in boiling water. Spelter; copper, 24 parts; zinc, 8 parts; tin, 8 parts.

For cast iron. Flux and spelter combined; boric acid, 4 parts; iron carbonate, 1 part; potassium chlorate, 1 part; granulated tin, 2 parts; granulated zinc, 2 parts; granulated copper, 4 parts. Crush the whole in a mortar to as fine as possible.

ANTI-RUST FOR METAL

Nothing is equal to paraffin for preserving the polished surface of iron and steel from oxidization. The paraffin should be warmed, rubbed on, and then wiped off with a woolen rag. It will not change the color of the metal, whether bright or blue, and will protect the surface better than any varnish.

DON'TS FOR MOTORISTS

Don't run on the battery.

Don't let the clutch in suddenly.

Don't start the car with a jerk.

Don't advance the spark too quickly.

Don't run at high speed in towns and cities.

Don't race the motor when shifting gears.

Don't violate the unwritten rules of the road.

Don't overwork the motor on hills—shift gears.

Don't fail to carry necessary license numbers.

Don't abuse the brakes—apply them gradually.

Don't drive through traffic with head lamps lighted.

Don't shift into or out of reverse when car is moving.

Don't drive fast on wet pavements—the car is liable to skid.

Don't start on a trip without a full gasoline tank and plenty of oil.

Don't descend steep grades before shifting into one of the lower gears.

Don't fail to keep the brakes adjusted.

Don't use dirty water in your radiator.

Don't turn corners too rapidly—it is hard on tires.

Don't twist the steering wheel when car is standing.

Don't forget to examine the car carefully after a hard run.

Don't run the car if you detect some unusual sound—investigate.

Don't use dirty gasoline. It is well to strain all the gasoline you put in the tank.

Don't get water into your carburetor or on the magneto gear when washing the car.

Don't use the brakes too much—slow down the car by means of the clutch and throttle.

Don't let your steering rod connection loosen up to such an extent as to cause wobbling of the wheels.—American Chauffeur.

CRANKING NOT NECESSARY

Many motor owners prime their engines, close the relief cocks, turn on the switch and crank until their backs nearly break. A much easier way is to prime the engine with relief cocks open, turn over the engine about twice to each cylinder, then close relief cocks, turn on the switch and throw the wheel back against the compression, and nine times out of ten it will start on the first or second attempt. The reason is that the prime charge is too rich to ignite quickly. The air taken into the relief cocks helps to make a good mixture quickly. It might take twenty revolutions at the crank to get enough oxygen in through the carburetor to vaporize the prime.

EARLY WINTER GARDEN NOTES

The fall plowed garden will have less undecayed trash and weeds and fewer insects, and may be tilled earlier in spring for first planting. If you neglected plowing do it yet, if possible.

Tender canna and dahlia bulbs should not be stored in deep piles, as they may heat and mold. They should be stored in shallow boxes or on shelves only one layer deep. If stored where the air is dry, they ought to be covered with enough sand to keep them from withering.

Hyacinths, Chinese lilies and other bulbs, which are to be forced in water or pots for winter blooming, should be started in a cool, dark place until the roots are well formed. If put in a warm, light place at first the top growth will be in excess of root growth, and the flowers will be weak.

Parsnips and salsify may be left in the ground over winter. Enough may be dug and pitted out of doors to use during cold periods in winter when the soil is frozen. An additional supply can be dug during thawing spells in winter from time to time, and the roots saved for spring use, remain in the soil until spring.

In mulching roses and semi-hardy perennials, the mulch should not be put on thick enough to smother the plants. Straw or other light, loose material, makes the best general mulch. An inch or two of old, rotted manure, however, may be used on the surface of the ground around the plants beneath the mulch.

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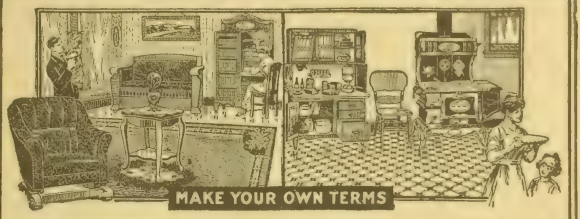

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RIVERSIDE FARM NOTES

Showing Some Kinks in Practical Agriculture Dealing With Diversified Farming and Raising Livestock

By Lester J. Meredith

FEEDING BEEF CATTLE

At Riverside Farm it has been our aim to develop an economical and efficient system of feeding beef cattle that would make it possible to utilize our rough feeds to profitable advantage. At best the margin of profit in feeding beef cattle is small, therefore one must plan to reduce overhead charges and cut out all the expensive and unnecessary frills and equipment.

For Illinois conditions we find an open shed all the shelter that is needed for the fattening cattle, and for all practical uses fully as suitable as an expensive barn. Our sheds afford a floor space of sixty feet per head, and allow the stock to get well under it in stormy weather. The sheds are fourteen feed wide with a wing to the west and on the north, opening to the east and the south. Such an arrangement affords maximum protection against the storms that are most common in this climate. The sheds are eight feet high at the lower side, and enough slope is given to the roof to remove water rapidly. The feed bunks are placed along the walls, and openings are provided, so that corn, silage and mixed feeds may be fed from the outside, without tramping among the cattle. By having the feed bunks inside the sheds on paved floors, the manure is largely conserved, and the cattle are kept clean by the use of an abundance of bedding material. Steers that are fed silage require dryer and warmer quarters than those fed dry roughage.

CONVENIENT EQUIPMENT

We have large feed racks outside the sheds where we feed hay and fodder. By hauling one or two loads once or twice a week the cattle consume what they want, and the labor of feeding is minimized. We find it an economical proposition from the standpoint of labor to have the racks sufficiently large to hold a week's supply of roughage. All of the racks are covered to protect the roughage from the weather, and the yard is paved with brick for a space of twelve feet each side of the feed racks. With bedding material distributed on the paved surface the manure is conserved and when the weather is pleasant for a few days during the winter the yards may easily be cleaned, and a supply of new bedding material distributed. All of our plant has been constructed with the idea of simplifying labor and conserving the manure resulting from feeding. Many feeders have more elaborate and costly buildings and equipment, but it does not bring much, if any, better results, or so great a percentage of returns upon the money invested in the business.

MARKETING LIVESTOCK

While our feeding operations at Riverside Farm have never been extensive, we have seldom been compelled to sell our stock at low prices on account of a scarcity of feeding materials. Cattle and hogs should go to market as soon as they are ready. It is the best thing one can do to sell when they are ready. That is, when they have reached a weight at which one can add no more weight at a profit. It is best to avoid being a market crank, and to sell stock when it is properly conditioned.

We are assuming the role of a speculator when we hold properly conditioned stock for a rise in the market. The majority of feeders make many mistakes in fitting their stock for market. At least sixty per cent of all the stock sold get on the market in an unfinished condition. This, more than anything else, is probably accountable for the common belief that there is no money in feeding stock. Sometimes stock is sold because grain is high. At other times the available supply of feed has been consumed before the stock is conditioned, but more often, perhaps, many men do not understand what properly conditioned means. With some men it is a case of going with the crowd.

No amount of reasoning can overcome the influence of that old proverb that a "bird in the hand is worth two in the bush." It is true unless a man is a good shot. If he has judgment and nerve he can just as well bag two birds at one shot as to miss the one. If he has plenty of feed and suitable equipment for feeding he can finish out, and not sacrifice them in a half-finished condition to save a few bushels of grain. Whether farmers are feeding cattle, hogs, sheep or horses for market it is always the last few bushels of feed required to get them up to proper weight that brings the best returns.

PATRONIZE THE LOCAL BUYER

In our business of feeding from 18 to 20 beef cattle and from 60 to 80 hogs we find that the simplest method of selling is to sell to buyers who visit our farm and make their selections. Men who buy in this way do not pay quite as high prices as one is likely to get by shipping the same stock direct in carload lots, but it is many times advantageous to sell less than a carload in this way.

In dealing with these country buyers a man has an opportunity to exercise his talent as a salesman, for they are very shrewd buyers, and are out to drive the best bargain they know how with men who do not understand market conditions and classes. In all livestock feeding sections there are some feeders who sell their stock to the same buyers each year, a plan which has many advantages to both buyer and feeder. If a buyer feels certain in obtaining well-finished stock which he can use to advantage, he is willing to make liberal concessions, and the man who is selling finds it greatly to his advantage to sell to a man with whom he is acquainted, and in whom he has confidence, and to whom he can sell whenever his stock is in condition to market. We have always made it a point to keep in close touch with the leading buyer in our section.

OUR DUAL-PURPOSE COWS

In connection with feeding beef cattle at Riverside Farm, we find dual-purpose cattle fill an important niche in our farm economy. Without disputing the fact that the special-purpose dairy cow is capable of returning a greater profit from such feeds as alfalfa, silage and highly proteinaceous grain materials, we claim that for our conditions, where considerable roughage must be fed, that the dual-purpose cow is better adapted to our requirements than her more highly developed sister. We keep dual-purpose cows because we want to grow our own feeders, and have skimmilk for our calves and young pigs.

Somebody may ask if we want milk why not keep better cows and make dairying our main business? Why be content with only average production in both meat and milk? Our dual-purpose cows give us two sources of income, and enable us to give our pigs a good start in life. Then we are situated so that we do not care to make the cash investment necessary to make dairying a leading branch of our farming. We separate our milk and sell the cream. This eliminates the trouble of making daily trips to the station, and we have a fair income from our cows.

We cannot get the desired results from dairy-bred cows, and we cannot afford to keep both types. We do not grow a large quantity of the feeds best adapted for milk production. We can grow corn, clover, mixed hay, and some alfalfa, but as yet we have years of partial failure with clover and alfalfa. For our system of diversified farming the dual-purpose cow meets our requirements. The most dominant factor in her favor is the fact that she will produce the necessities of life to the best advantage under the conditions in our community.

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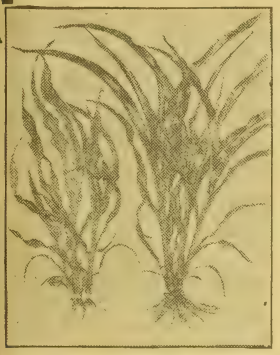

Fig. 27—Those Two Hills Are From Two Different Ears of Corn

The hill at the left is from an ear whose kernels, when tested in the germination box, showed rather weak stem and root sprouts. Note the difference in the root systems of these two plants.

There are three illustrations alone in this book which, with a moment or two of study, should show you how to increase your corn yield anywhere from 10 to 30 per cent; returning to you the harvest of golden dollars to which you are entitled for your labor and effort. This statement is fact, founded on scientific experiment and proved conclusively. He not only tells you how, in his easy, plain, pleasant way, but **HE SHOWS YOU HOW**, with his wonderful "corn pictures." He makes it as plain as the alphabet—that's why we call it the "A B C of Corn Culture." He knows more than any other living man how to make it all plain and practicable for you. Are you going to "pinch" those few cents and deprive yourself of something that means more to you as a corn raiser than any other similar thing? Something that will return its price to you next season, not only a hundredfold, but a thousandfold? No indeed, you are going to order your copy right now, and we will refund your money if what we have told you is not true. You know what we are telling you is the naked truth, if you know Holden. If you don't know him—here he is, get acquainted—just send for his wonderful "Corn Book."

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THIS MEANS PROGRESS

The following letter, sent in response to a number of questions with reference to an Iowa County Improvement League, makes mighty interesting and entertaining reading:

"Dear Bill:

"Your questionaire received. Why is it, when an ordinarily sensible individual prepares one of those infernal things, he invariably leaves a lot of space where none is required and leaves none at all where a page is needed?

"I have discarded the questionaire, and you'll find all the facts in the following, as briefly stated as possible;

"In the summer of 1912 the Secretary of this organization and the President of the First National Bank, who is a live one and wanted to make himself solid with the soil-tillers, toured Scott County in a 1909 Cadillac visible, distributing literature, calling meetings, ticketing the bell-cows of every township, and doing other needful things in connection with the formation of a county agricultural organization. The Commercial Club provided an office, furniture, stenographic help, and other necessaries, the government contributed $1,200 a year, the business men of Davenport dug up an even larger sum, and the farmers of Scott County yielded $124.19. With a favoring wind their moans could be heard for miles.

"Cheered by the results, we induced a kindly millionaire with a penchant for agriculture to guarantee the payment of any deficit that might be incurred, and launched the Scott County Farm Improvement League upon a chilly world. Then we bought a second-hand fordcar and a tank of gasoline, hired a solemn young man from Ames, and we were ready for business.

"Our success was not exactly immediate. Although the young man from Ames can tell from looking at a rolled oat whether it was planted with a drill or a shot-gun, and is equally proficient in other directions, he was at first the object of considerable suspicion. Some farmers met him on the wrong side of the front gate, with their hands on their Ingersolls, and some of them shooed their stock in the barn when the secondhand fordcar hove in sight. His advice was as welcome as a case of smallpox and was followed as literally as the ten commandments. And when he insisted there were better methods of testing seed corn than by looking at it wisely through a pair of ten-cent specs; that cholera serum was not invented by black-hearted confidence men to separate the farmer from his loose change; that alfalfa will grow in Scott County, and that sprayed trees yield more and better fruit—he was looked upon as a hopeless and dangerous lunatic.

"Two years elapsed!

"Tested corn came up, and untested corn did not; serum-treated hogs lived, and untreated hogs died; sprayed orchards bore fruit, and unsprayed orchards did not; alfalfa grew and thrived, and returned big yields. The farmers began to smile upon the young man from Ames. Some gave him buttermilk. A few invited him to supper. The live bank president began to believe some of his own agricultural predictions. The Secretary of this organization began to hope. And the farmers began to give up money.

"Another year slipped by!

"The second-hand fordcar and the young man from Ames are welcome guests on every farm. The live bank president is known as the farmer's friend, and his rural deposits make him blush. The Secretary of this organization calls the farmers by their first names, and hopes one of them may some day join the Commercial Club. The government still produces $1,200 a year, the business men still dig up even more, but the farmers—God bless 'em!—are parting with about a thousand. The sun shines, the birds sing,

Why Hens Stop Laying

I want to send you—**ABSOLUTELY FREE**—my book which has revolutionized the poultry business. I call it **"Poultry Dollars and How to Get Them."** This book contains scientific facts which show the every-day poultry raiser who has chickens in the back yard and on the farm, how to make the ordinary barnyard hen produce 200 eggs a year. It is chock full of common-sense facts which I have gathered after years of hard work and experimenting. Think of getting 200 eggs a year from each hen!

I am the Poultry Expert

Mr. Reefer, whose photo appears above is a Poultry Expert in whom the subscribers of this paper should have **confidence.** He **knows** and he can teach **you** in a few simple words ***how to make real money*** with your hens.

Last year a hundred thousand people wrote to him for his advice and his book. He has helped them out of their poultry trouble. He showed them how easy and simple it was to make money with their chickens. Mr. Reefer says:

"Thousands upon thousands of folks realize **now** the enormous profits that can be made by just a few hens. My book will help you. It will help you towards independence and prosperity. Send for my Free Book today—don't delay. Learn how to make money—lots of money out of your chickens. Anyone who reads my free book can do it!"

Eggs Going Up!

Egg prices go up every winter. You can take advantage of them. There are many egg dollars that will be yours ***if your hens will lay.*** Meat prices are going up. That means a big demand for eggs. And when there is a big demand, prices go up—up—up. Right now is the time to get eggs. ***My free book tells you how.*** It tells what to feed, how often to feed, how much grit to give and how much charcoal. Write for my book today. It's free and means money to you.

Write For Free Book

It contains letters from foremost agricultural colleges in America and many illustrations in colors that will interest and delight you. It tells all about feeding and housing and shows how easy it is to prevent and cure diseases. **Send today for this great book.** Don't wait. The book is Free to anyone interested in raising chickens. Cut off the coupon and mail it ***now.*** Even a postal will do. Only do it ***right now*** — before all the books are gone.

Free Coupon

E. J. Reefer
3561 Reefer Bldg.
Kansas City - Mo.

Send me your valuable Poultry Book absolutely free and prepaid on the next mail.

Name _____

Address _____

R.F.D. _____

E. J. Reefer, The Poultry Expert
3561 Reefer Building Kansas City, Mo.

the corn grows as thick as clover, the hogs die of old age, the alfalfa is cut twice a week, the orchards groan with the weight of sanitary, sprayed fruit, and the Scott County Farm Improvement League is considered to be the best ding-busted organization in the whole blamed state.

"Sincerely yours,

"Irving C. Norwood, Secretary."

FARM LABOR PROBLEMS

"Few things could be more deceptive than the inference drawn by some farm laborers on comparing their wages and hours of work with those of their city cousins," says O. R. Johnson of the University of Missouri, College of Agriculture, after a very careful study of the farm labor problem in one Missouri county and a general review of the situation in the state as a whole. He finds that the average Missouri farm laborer works about 9.64 hours a day for 12.8 cents an hour in money, and board.

When employed by the month, the farm hand receives an average of $22 with, or $29 without board. During harvesting time he may be temporarily employed at an average of about $1.60 a day with board, or $2 a day without board. The average wages a day during other seasons is from $1.10 to $1.40. These wages may not seem very high, as compared with from 15 to 30 cents an hour in the city, but this is where the fallacy of comparing such incomes begins to appear. The city laborer is probably more likely to find himself out of work without any fault of his own, and will certainly have to spend much more for board, room, and practically every other item of expense, to say nothing of his greater temptation to spend money foolishly.

It has been estimated that during the last twenty years wages have increased 23 per cent in the manufacturing industries and 36 per cent on farms, indicating that the lot of the farm laborer is improving more rapidly; altho, of course, such figures tell us nothing about his welfare as compared with that of his city cousin, either now or twenty years ago.

Perhaps one of the greatest surprises to be found in Mr. Johnson's figures centers about the length of the work day on the farm. In the industries there has been an agitation for a reduction to a ten-hour day, then to an eight-hour day, but the Missouri farm laborer already enjoys advantages in this particular perhaps fully equivalent to those his city cousin would enjoy under an eight-hour arrangement. It is true that his average working day, as determined from careful records kept on 23 farms, representing all sections of Missouri, is 9.64 hours. But, during the season from November to April is only about 8½ hours, and during May, June and July it is about 10½ hours. This is not to be compared with a city working-day of 8 or 10 hours. It includes all time spent in chores, in preparing for work, and going to the field, but the city worker spends from one to two hours, or even more, in getting to and from work, thus adding to the nominal working-day just this much which is usually not considered in making comparisons of the length of the working days in country and city.

FREE

Who Wants Me?

My name is "Blossom" and The Farmer's Wife Pony Club is going to give me to you or some other lucky Boy or Girl.

Send Your Name Today

and we will tell you how to get "Blossom"

If you want the most beautiful Pony and Outfit you ever saw, send us your name on the coupon below so we can tell you how to win **"Blossom"** and a handsome buggy, nickel-trimmed harness, English riding saddle, horsehair riding bridle and a felt saddle blanket. The Farmer's Wife Pony Club will send this whole outfit to you or some other lucky boy or girl with express charges paid to reward you for doing us a favor.

We Have Already Given 342 Ponies

Already we have given away 342 ponies and outfits to boys and girls in 38 different states and we would just as soon send "Blossom" to you as to anyone else, but first you must send your name and address so we can tell you how you can win her.

A Sure Prize

Besides Shetland Pony Outfits The Farmer's Wife Pony Club gives hundreds of dollars worth of other prizes to Club Members. No matter who you are or where you live, if you send us your name and address and join our Pony Club you will be sure to get a nice prize and the sooner you mail this coupon the surer you will be to get the finest prize of all—"Blossom" and her elegant outfit.

Parents

Our high record of integrity and fair dealing has been maintained for more than thirty years and any bank or commercial agency will testify to our strong financial standing. Whoever writes for information about our Pony Club is under no obligation to us and we are sure our reply will interest you as well as your child.

PASTE THIS COUPON ON THE BACK OF A POSTAL CARD OR PUT IT IN A LETTER

The Farmer's Wife Pony Club,
552 Webb Bldg.,
St. Paul, Minn.

Please send me at once pictures of "Blossom" and her outfit and the names of the 342 children to whom you have given ponies. I want "Blossom" or another Pony.

NAME.....

POST OFFICE.....

STATE.....R. F. D.....

This coupon counts towards "Blossom" and other prizes.

Be sure to Address **THE FARMER'S WIFE PONY CLUB** 552 Webb Bldg. St. Paul, Minn.

HORSE BOOK FREE

Here is a book that should be in the hands of every horse owner! Admittedly the greatest book on the subject ever written and practically *worth its weight in gold* to horse owners and live-stock breeders. 520 large pages profusely illustrated. Part 1 deals in plain language with the theory and practice of Veterinary Science—Diseases of Horses, Cattle, Sheep, Poultry, Swine and Dogs—with tested and proved remedies. Part 2 contains Prof. Gleason's famous System of Horse Breaking, Taming and Training. Gleason's marvelous skill in training and treating horses is known through the entire world and he is considered the world's greatest authority in this field.

OUR GREAT OFFER! By a special arrangement direct with the publishers we are able for a limited time to offer "Gleason's Horse Book" *absolutely Free*—postage prepaid—to all who send only 50c to pay for a 3-year new or renewal—subscription to our big farm magazine. Send your name and 50c at once.

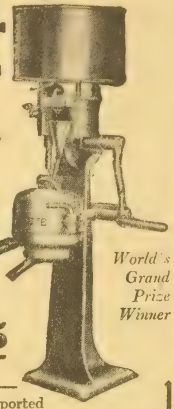
FARM NEWS, Dept. S-12, Springfield, Ohio

DIAMOND POINT LOCK-STITCH

SEWING AWL GIVEN

This Awl is a practical hand-sewing machine for the speedy repairing of harness, shoes, belts, carpets, canvass or any other kind of heavy sewing. A real awl with exposed threadlessl in natural position under the finger tips where you can automatically control the tension. Hollow handle; no springs or levers; so simple a child can use it; can be carried in the pocket. Each Awl is equipped with grooved Diamond Point Needles, straight and curved; and a supply of wax thread, with full directions for use. Send 35 cents for a regular two-year subscription to Household Guest, and 20 cents for a year's subscription to Farm Journal, America's leading farm paper, 55 cents in all, and a genuine Beyer's Perfection Awl will be sent you FREE and extra. Address, **HOUSEHOLD GUEST, Awl Dept. 16 CHICAGO, ILL.**

Greatest Cream Separator Offer



Imported Direct from Belgium

World's Grand Prize Winner

FREE Duty —Save $15.25

The Melotte—the wonderful imported Belgian Melotte Separator—the world's grand prize winning cream separator, now offered on the first bona fide free trial, no-money-down offer ever made on any separator, and at the same price you would pay in Belgium, plus $1.75 for water freight. Write—write for the special offer we are making. No manufacturer of any cream separator, American or foreign, ever dared make such a startling offer before.

Good News from Belgium

The wonderful Melotte Cream Separator factory which is only four miles from Liege and which has not been injured in the war, is now again able to export to the United States. We do not know how many of these Belgian separators we can get. Two shipments have arrived. Write at once for Booklet explaining our great offer.

The Melotte, which has won more than 180 international contests, now comes in free. The duty is off—you save $15.25.

30 Days' Free Trial Without A Penny Down

Your simple word that you would like to test this cream separator in your own barn or dairy house brings it to you instantly. We neither ask nor want you to send a penny. We give a free trial, no C.O.D., no lease nor mortgage. If, after 30 days, you don't want this wonderful separator, **send it back at our expense.** If you decide to keep the genuine Melotte, we will allow you to keep it on extremely easy

Monthly Payments

These monthly payments are so small that you will hardly notice them. You only pay out of your increased profits. The Melotte pays for itself. It does not cost you a penny—**the increased amount of cream pays for it.**

Valuable Book Free

Send the coupon today and we will send you our great book "Profitable Dairying" written by two of the best known dairy scientists in the country. Also our handsome Melotte Cream Separator catalog and details of sensational free-duty offer.

Free Coupon

The Melotte Separator
19th St. & California Ave.
Dept. 3561 Chicago, Ill.

Without any obligations on me send me free and prepaid your booklet, "Profitable Dairying," and your special free-tariff prices on the Imported Melotte Cream Separator. Also your free-trial, monthly-payment, no-money-down offer.

The Melotte Separator
19th Street and California Avenue
Dept. 3561
Chicago, Ill.

Name_____

Address_____

THE NEW BUTTER QUEEN

The remarkable world's record achievement of the Holstein-Friesian cow, Duchess Skylark Ormsby 124514, announced by the Advanced Registry Office of the Holstein-Friesian Association of America, Nov. 9, 1915, will please all lovers of the "Black-and-White" breed and is of much interest to the general public. In a 365-consecutive-days' test, conducted by the Minnesota Agricultural College, she established a new record by producing 27,761.07

Duchess Skylark Ormsby

pounds of milk, containing 1,205.09 pounds of butterfat, exceeding the best previous record for yearly butterfat production by 28.62 pounds. She freshened at the age of five years and three days, and throughout the test was never fed other than the ordinary commercial cow feeds. Her daily grain ration was about twenty pounds. Her sire is Ormsby Skylark 47010, and her dam is Oakhurst Duchess Clothilde 106988. She was bred by R. B. Young, Buffalo Center, N. Y., and is owned by John B. Irwin of Minneapolis, Minn. She was handled in the test by Axel Hansen. Her average butterfat percentage was 4.32.

PROVIDE PURE WATER AND SALT

In order to obtain a heavy milk yield, and maintain the good health of a dairy herd, it is needless to state that pure water and salt are absolutely necessities. By far the greater part of milk is made of water, and if there is not an ample amount in the system there will be a decrease in the milk flow. None other but the cleanest of water should be allowed, to which the cows should have free access at all times where practicable. They ought not to be required to drink water that a person would be unwilling to use for himself.

Salt, too, should be available whenever the animals want it. This element stimulates the appetite and assists digestion and assimilation, which increase the flow of the fluids of the body. I find it a good plan to keep rock salt under shelter, where the cows can get at it at will, and then feed loose salt once a week in such quantities as the cows will eat. I do not practice mixing salt with the feed, as I am aware some dairymen do, for frequently the cows would get more salt than they need and thus the milk flow be reduced.

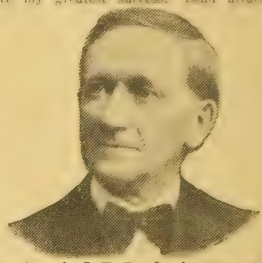
Cows having salt kept before them at all times in separate compartments will not eat too much of it. An overfeed of salt to a cow that has been deprived of it for some time acts like poison, and produces an irritation in the digestive organs which results in scouring, a decrease in the yield of milk, and a lowering of the health of the animal.—U.

Don't Wear A Truss!

After Thirty Years Experience I Have Produced an Appliance for Men Women or Children That Cures Rupture

I Send It On Trial

If you have tried most everything else come to me. Where others fail is where I have my greatest success. Send attached



The above is C. E. Brooks, inventor of the Appliance, who cured himself and who is now giving others the benefit of his experience. If ruptured, write him today, at Marshall, Mich.

coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have used it and were cured. It gives instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

FREE INFORMATION COUPON

Mr. C. E. Brooks,
1779C State St., Marshall, Mich.

Please send me by mail, in plain wrapper, your illustrated book and full information about your Appliance for the cure of rupture.

Name . . . . . .

Address . . . . . .

City . . . . . State . . . . . .

STEM WIND

WATCH & RING GIVEN

For selling only 20 Handsome Art and Religious Pictures, (Big Vases) at 10c each. Watch guaranteed for five years. Case is beautifully engraved. Thin model. Fully timed and tested. Sell only 20 fast selling Pictures, send us $2.00 inside 15 days and Watch, Ring and Chain will be sent first mail.

ALTON WATCH CO., Dept 8 CHICAGO

TEN BOOKS FOR 10 CENTS

1-Log Cabin Book. 2-Facts on Magic. 3-Book on Toy Making. 4-Book on Courtship. 5-Base Ball Book. 6-Dream Book & Fortune Teller. 7-Book Letter Writer. 8-Cook Book. 9-Home Entertainer. 10-White Slave Story Book. All the above by mail for 10 cents. Three for 25 cents and Big Catalog Free.

Family Publishers, Dept. F. N. Springfield, Ohio

FREE

Stem wind and set watch, guaranteed 5 years, for selling 20 art and religious pictures at 20 years, post cards at 10c each. Order your choice.

OATES MFG. CO. Dept. 400 Chicago

WOMEN MAKE MONEY introducing Priscilla Fabrics, Petticoats, Dresses, Hosiery, Etc., in spare time. Beautiful samples furnished. New plan. FITZCHARLES CO., Dept. 108, TRENTON, N. J.

VIOLIN GOOD TONED for Sale. Free trial. Write Miss Bertha Marden, Rt. 3, Rogerton, Kansas

$25 WEEKLY collecting names and addresses. Send stamp. Superba Co., J. Baltimore, Md.

Crop-Growing Systems for Stock Farms

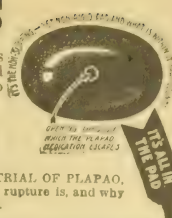
(Continued from Page 22)

cal use of the corn crop. By practicing better methods of soil handling, and utilizing the entire crop in the form of silage, grain and shredded fodder, it is possible to maintain more stock and add greatly to the supply of manure made on the farm. The difficulty of maintaining breeding stock in the winter on dry feed has always been a serious problem, but the silo turns the trick so far as sheep and cattle are concerned.

The dairyman has tried the silo, and got an increased flow of milk. The cattle and sheepmen have tried it, and found that they can obtain greater gains in growth and fat from light feeding, and accordingly it has given excellent results. Slowly but surely the silo is working its way into general favor on all farms where dairy cattle, beef cattle and sheep are kept.

Any man who has a reasonably fertile farm in the cornbelt, and who sets about it intelligently, can build up a constructive system of profitable stock farming. Establishing suitable moisture and drainage conditions, growing clover, alfalfa and grass crops in rotation with corn and small-grain crops, establishing good pastures, making use of the entire corn-plant and small-grain crops, and carefully saving the manure and reinforcing it with phosphorus, are the bases of successful stock farming.

Don't Wear a Truss



DON'T, I say! You KNOW by your own experience the truss is only a make-shif—a false prop against a collapsing wall—and that it is undermining your health. Why, then, continue to wear it? Let me show you a better way.

FREE TO THE RUPTURED

I want to send to every RUPTURED SUFFERER, absolutely FREE TRIAL OF PLAPAO, and my interesting, instructive 48-page book on Rupture—explains what rupture is, and why trusses and similar MERE MECHANICAL supports cannot be relied upon.

The way of the PLAPAO-PAD is nature's way. This simple, inexpensive home treatment is calculated to give quick relief, and strengthen the weakened muscles, thus doing entirely away with steel and rubber bands that chafe and pinch, for all time to come. Close the hernial opening as nature intended so rupture CAN'T come down. Hundreds have testified under oath that the PLAPAO-PADS positively and permanently cured their rupture—some of them most aggravated cases and of long standing. Awarded Gold Medal and Grand Prix.

Soft as Velvet—Easy to Apply—Inexpensive

There is no metal about the PLAPAO-PADS—no straps, buckles or springs attached—soft as velvet. Comfortable to wear. No delay from work. Easy to apply and require no readjusting. Process of recovery is natural, so afterward no use for trusses. Ask me to prove what I say by sending Trial PLAPAO and a most convincing mass of evidence FREE—no charge for it, now or ever—nothing to be returned. Don't wait. Write today—NOW.

Plapao Laboratories, Inc.
BLOCK 1721, ST. LOUIS, MO.

Works Like a WINCHESTER 1,000 Shots **FREE** STEEL AIR RIFLE

This is a splendid, strong, and accurate repeating Air Rifle, shooting 1,000 times with one loading. It is made of the best grade of steel, nickel-plated parts, black walnut stock and looks like a Winchester. It is built to shoot. Just the thing for small game. Has many features of a powder and ball rifle. It is a real gun, every inch of it, and a beauty, too. Write today for our big free offer. Send no money, just your name and address, saying you want the Repeating Air Rifle. Address, The FAMILY, Dept. S-13, Springfield, Ohio

Learn to Play Piano In One Evening FREE

If you don't play the piano or organ and want to learn, won't you let us loan you for five days 100 pieces of the world's sweetest music and full instructions for playing. A postal card brings it to you FREE.

Would you give a penny to learn to play the piano or organ in one evening? Impossible! No, not at all. Hundreds of thousands of others who never played before, played their first piece in just a few minutes. THEN WHY CAN'T YOU?

In this hurrying, busy twentieth century, people cannot afford to take several hours a day for several years in learning to play. They demand something easier, a shorter, simpler way—and this "Easy Form" Music Method is the result. Any person of ordinary intelligence can now sit right down and play, without any lessons, practice or special training. Just read the simple directions, turn to the selection you most fancy in the big volume of music, and PLAY it.

Any child or old person can now understand and play the Piano or Organ without previous knowlege. No teacher. No tedious instructions by mail. Simply write us a post card.

Short Hand In Music

No more spending years in study and practice. Why? Because music has now been simplified so that anybody who can read printed letters—C-D-E-F-G-A-B-C—can read the new "Easy Form" music at a glance. No chance for failure, anyone can learn quickly. Young children and old people learn to play in a few hours and amaze and delight their friends.

You don't have to take anybody's word for "Easy Form" either. We think the best way to prove it is to let you, yourself, be the judge. You can't doubt its value when you have learned to play by this method in a single evening. Therefore, we have decided to show our faith in "Easy Form" by sending the complete system—full instructions—100 pieces of standard music (all the favorites)—without asking for a cent of money. No need of writing for further information. Just send coupon or a postal card and you will get the entire outfit.

Send No Money

We don't want your money unless you want "Easy Form" after trial. Test it for five days. See how easy it is. Then, if you like, return it and owe us nothing. If you keep it, send us $1.50 at once and pay balance in small monthly installments.

What Do You Think of That! Never Played Before and Now Just Hear Her!

Thousands of Delighted Patrons

We have thousands of letters like the ones printed below, telling how quickly and easily people who didn't know one note from another learned to play by the "Easy Form" Music Method. It is so simple that there is no chance of mistake or failure—and the trial is absolutely FREE.

"Easy Form" In District School

I like the book and system very much. My little granddaughter, age 10 years old, plays for our district school from the same book.

MRS. M. E. WADE,
R. 2, Box 46, Boicourt, Kan.

Better Than Seven Years of Lessons

Have had "Easy Form" four weeks and was out of town one week. I practice about fifteen minutes daily, and can play several pieces as good as —— —— —— who has taken lessons seven years.

MRS. ARTHUR I. VAN KLEEK,
1620 4th Ave., Mason City, Iowa.

75 Years Old—Learned in Three Hours

"Easy Form" is very simple and I learned it in three hours. I am 75 years old, and never tried to play on the piano or organ, and did not know where middle C was until I got your easy method. Yes, anyone can learn to play by it.

REV. G. D. KING, Pastor, Christian Church,
Porterville, Cal.

On request we will send you thousands of similar letters from almost every part of the world.

Doesn't this convince you that you can play by this wonderful new method?

FREE Trial Coupon

EASY METHOD MUSIC CO.,
838 Clarkson Bldg., Chicago

Please send me the "Easy Form" Music Method complete, with 100 pieces of music, by mail postpaid, for a five-day FREE TRIAL. If I am satisfied and want to keep the system, I agree to send you $1.50 at the end of the trial period and $1.00 per month thereafter, until a total of $6.50 is paid. If not satisfied, I will return it promptly if I don't want to buy it and owe nothing. (Give your home address only — NOT your business address or general delivery).

Name .....

Street and No. } .....
or R. F. D. }

Post Office ..... State .....

Do you play old-style note music? .....

How many white keys on your piano or organ? .....

This dainty and attractive Oriental Brooch which is the latest creation in Persian Ivory Jewelry is hand painted in five different flower designs.

Special price to introduce our catalog and help pay for advertising.....10c

A tad from the Orient. Little finger rings in black on white engraved or plain white with any color birthstone. Your choice at SPECIAL PRICE 15c each to help pay for advertising.

ORIENTAL MFG. CO.,
106 Wesleyan Ave. Providence, R. I.

P. R. DALE MFG. CO., Providence, R. I.

1000 Shot Steel Air RIFLE GIVEN

BOYS!

We give choice of four Guns (on 4 Easy Plans) for selling our New "**Healena**". The Salve that Heals—at 25 cents a box. **WE TRUST YOU.** Order 6 Boxes of Magic Healing "**Healena**" today, we send promptly. Easy to sell because it is a necessity in every home. When sold, send us our $1.60 and select your Gun, according to one of the four plans as you are entitled, in our big list. **Extra Gift**—just for promptness, so order today.

Hamilton 22 Cal. Hunting RIFLE Without Cost

WAVERLY SUPPLY CO., Box 201, Monongahela, Pa.

FREE MOVING PICTURE MACHINE and 7 FILMS

Complete with 215 views, 250 other presents free for selling our Gold Eye Needles. Easy to sell. 2 packages for 10c with thimble free. Order.

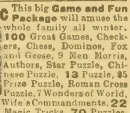
WE TRUST YOU

When sold return $1.50 and receive premium entitled to, selected from our premium book.

Keystone Gift Co., Box 388 Greenville, Pa.

$5. Prize Package 10c This big **Game and Fun Package** will amuse the whole family all winter. **100** Great Games, Checkers, Chess, Dominos, Fox and Geese, 9 Men Morris, Authors, Star Puzzle, Chinese Puzzle, **13** Puzzle, $5 Prize Puzzle, Roman Cross Puzzle, 7 Wonders of World, Marriage Looking Glass, Husband and Wife's Commandments, **22** Popular Songs, **19** Comic Cards, **48** Magic Tricks, **70** Puzzles, **300** Jokes and Riddles, **12** Love Letters, **175** Ways to Flirt, How to Tell Fortunes, How to Make Others Obey You, &c. **ALL** the above and 500 other things to amuse, **10 CENTS**, postpaid. Address **STAR CO., 39 Clinton St., CHICAGO.**

FREE TALKING MACHINE PLAYS COLUMBIA OR VICTOR RECORDS



Truly wonderful; reproduces clearly any style music. Distribute 6 boxes Mentho-Nova Salve, wonder healer, at 25c a box. Send us $1.50 and machine is yours. Write today—Extra Record Free. **U. S. Supply Co., Dept. 106 Greenville, Pa.**

New Valentine Outfit 10c

25 Valentine, Easter & Greeting Cards, 20 Good Luck Hearts, 30 Greeting Mottos, 20 Love Seals, 30 Pennants, 30 Love Mottos, 150 Greeting Seals, 73 Love Verses & Toasts, in all material for over **50 VALENTINES** all in bright colors, cupids, hearts, pretty girls, doves etc. Biggest and prettiest collection ever offered. All for 10c, 3 Outfits 25c. STAR CARD CO., CHICAGO.

FREE STERLING **POWERFUL AIR GUN**

Big lever action rifle, free for selling 20 Art and Religious Pictures or 20 pkgs. Post Cards at 10c. Order your choice. **GATES MFG. CO., Dept. 509 CHICAGO**

$10.00 IN CASH

For Our Boys and Girls for Sending the Best Answers to These Five Questions

What are eyebrows for? Why are tears salt?
Why does the kettle sing? What makes a fog?
Where do thoughts come from?

Boys and girls, how would you like to have a bright, shining, new Five Dollar gold-piece to call your very own? Well, here's a chance to get that very thing, and at the same time learn five good lessons. Send me the best answers you can make up to each of the five questions above. If you don't know the answers, find out. Ask your teacher, your preacher or anyone whom you think ought to know. Find out where you can read the answers for yourself, and then write it out. Be brief.

For what we consider the most concise, neatest and best answer we will send $5.00 in gold. The next best $3.00, and $1.00 for each of the next two best. Contest closes February 1, 1916. Send your answers to Prize Editor, The Family, Springfield, Ohio. The prize-winning answers to the questions in the December number of The Family will be published in the February number.

NEW YEAR'S ALLEGORY

When the Thriving Twelvemonth Walked the City Streets

Across the snowbound earth the New Year stepped buoyantly. A splendid youth he was, with radiant eyes, full, red lips and the star of hope set so proudly above his brows that where he passed darkness turned to light. For a whole year the world and the men thereon were his.

Far away under the frozen sky a blaze of light shone like a jewel, and he turned toward the city.

And, though the lights shone boldly when he entered it, most of the streets were empty.

In one of the strets the New Year met a woman. A dark veil fluttered around her, so that he could not distinguish her form, but her face was very sweet as she bent and clasped a child to her heart. The New Year gave her greeting.

"You are Charity, I know," he said.

Charity laid her hand in his and smiled. And for all his youth her smile set him dreaming of green woods and golden sunshine, of vague, sweet things that were still unknown to him.

And then he met another woman!

A glittering gas moth this, with a pert, powdered face, carmined lips and hard, bright eyes.

"All hail!" she cried mockingly. "I shall be your constant companion, for I am Sin, and where men are there you will always find me."

The New Year shrank back, and his face darkened. But Sin pressed close to him, laughed loudly and, tearing a rose from those at her breast, tossed it to him, as with a rustle of silk she passed on. The rose fell on the snow powdered walk, and when the New Year would have picked it up it was scentless, and he saw that a worm was hid in its heart!

Another form came in sight—in the garb of a monk with a dark hood about his tranquil face. His eyes were upon the ground, and his lips moved in prayer for all mankind. So tender and pitiful was his face that even before he cried "Miserere Domine!" the New Year guessed that his name was Mercy.

Very cold it grew as the New Year turned into a mean street, so cold that he sought refuge in the porch of a darkened house. Yet there prevailed such a grateful warmth that he pressed back to learn its cause and so brushed against a boy—a boy with a wan, beautiful face, tangled hair and rapt eyes.

"Why are you here alone?" the New Year asked.

"I am never alone," corrected the boy, and he stepped aside so that the New Year caught the fragrance of his breath and saw that two great wings were furled behind him, and in the shadow of his wings an old man and an old woman crouched together. How tired, how poor, they looked! But an expression of ineffable tenderness shone in their pinched faces.

"I am all they have," whispered Love as tears filled his wonderful eyes. "They have never failed me, and I shall stay with them until the end."

"I am the End," called another voice, and a grim figure mounted the steps.

"Not yet," begged Love, and he tried to bar the stranger's way. But at sight of the scythe the other bore Love's great wings drooped.

"Mine is the best gift of all," whispered the newcomer as he bent over the forlorn couple.

Silently the New Year walked alone with the night and the stars and the scurrying snow. And as he hurried on the darkness faded into the eerie pallor of dawn. He stretched out his arms and welcomed his first day.

"Charity, Sin, Mercy, Love and

Death," he cried—"all mine! How shall I choose from among you?"

A shadow fell across him. There was a sound as of wings beating the air, and Love, rosy, triumphant and eternal, caught his hands. "Let me go with you all your days," he pleaded, "for mine is the gift which sweetens Charity, vanquishes Sin, glorifies Mercy and fears not Death."

TWO NEW YEAR'S DAYS

Lord Dundas, being wished a happy new year, replied, "It had need be happier than the last, for I never knew one happy day in it." Wilberforce said, "The last year has been the happiest of my life." Romaine's New Year's wish for his people was, "God grant that this may be a year famous for believing."

A SHORT STATE-MENT

There was a little Miss. of Tenn.,
And Minnie was her name,
Her Pa. however called her Minn.,
He said it meant the same.

She had two brothers, Cal. and Mo.,
Who lived in distant Ind.,
If they are Ill. they've no Md.,
O., would I were in Sindh."

"I'd take my Ark. to cross the seas
On any voyage save this,
How Kan. I brave the mighty gales?
La. Me. 'tis far I Wis.

But all at once both Cal. and Mo.,
Appeared before the maid,
Each bore a Mass. of golden Ore.,
Which at her feet they laid.

In Mont. and Del. we've labored long,
We delved in deepest mine;
We'd Conn. and weigh the nuggets bright
And Wash. them till they'd shine.

At last we found this precious prize,
And home we've come to Ga.,
Nor stopped with Penn. in hand to write
What we would rather say.

MOTHER GOOSE UP-TO-DATE—HOW BO-PEEP FOUND HER SHEEP

Little Bo-Peep has lost her sheep
And can't tell where to find them;
Let them alone and they'll come home
And bring their tails behind them.

Little Bo-Peep fell fast asleep
And dreamt she heard them bleating;
But when she awoke she found it a joke
For still they all were fleeting.

Then up she took her little crook,
Determined for to find them;
She found them, indeed, but it made her heart bleed;
For they'd left their tails behind them.

It happened one day as Bo-Peep did stray
Unto a meadow hard by,
There she espied their tails side by side,
All hung on a tree to dry.

Then she heaved a sigh, and wiped her eye,
And ran o'er hill and dale.
And tried what she could as a shepherdess should
To tack to each sheep its tail.

But, to her dismay, they would not stay,
Though she tried both pins and glue;
And to weep and wail for each lost tail
Was the only thing left to do.

Of hair tonic she thought, so a bottle she bought
And after applying it found
In a night and a day each sheep did display
A tail that reached down to the ground.

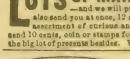
FREE
TALKING MACHINE AND RECORDS!
Reproduces, talking, singing and instrumental music. Clear in tone, plays Columbia or Victor Records. Machine with records FREE for 15 sales Gold Eye needles. Easy to sell. 2 packages for 10c with free thimble. When sold return $1.50 and machine and records are yours.
KEYSTONE GIFT CO., Box 174 Greenville, Pa.

2 Rings and Bracelet FREE
Sell 6 boxes Rosebud Salve at 25c box. Great remedy for burns, sores, tetter, piles, catarrh, corns, bunions, etc. Return 6 sold we will send these 3 beautiful gold shell premiums, warranted or choice from large catalog. SEND NO MONEY. We trust you.

Rosebud Perfume Co., Box 317 Woodsboro, Md.

Chas. Chaplin Outfit 10c
False Mustache, Im. Gold Shell Tooth, Voice Thrower, Sport Ring, Chaplin Stick Pin, 9 Hot Air Cards, Joke Book, Trick Book, Roll Stage Money and Catalog of 1000 Tricks, puzzles etc. THIS ENTIRE OUTFIT sent postpaid for TEN CENTS Fun for a year.
STAR COIN CLINTON CHICAGO

LOTS OF MAIL If you want to get lots of mail from different countries—send us your name and address—and we will put your name in our Directory. And we will also send you at once, 12 sample Cards, 14 Gem Pictures, and a large assortment of curious and wonderful reading matter. Write today, send 10 cents, coin or stamps for postage, and you will get lots of mail—and the big lot of presents besides. Williams & Co. 326 Madison St., Chicago


Watch WEEK WIND STEM SET FREE
Guaranteed 5 YEARS, for selling 20 Pkgs. Post Cards or 20 Art & Religious Pictures at 10c. each, your choice. Order today.
HERMAN & CO., 2810 Lincoln Ave., Dept. 510 CHICAGO.

FREE 5 Year Rolled Gold Plated Bracelet for selling 20 pictures or 20 place post cards at 10c
Gates Mfg Co. Dpt 509 Chicago

919 CARDS New Styles Gold Novel Edge Hidden Name, Silk Fringe Envelope and Post Cards; 100 Rich and Racy Jokes; 1 Pack Fun, 1 Resort and Love Cards, Star Base Catcher, Big Sample Book Cards, etc., all Two cents. UNION CARD CO., B 13 Columbus, Ohio.

ALL THESE FREE
Gold plated Locket set with im. Diamond and 22-inch Neckchain, one Gold finished Signet Extension Bracelet, fits any arm, and these 4 beautiful Rings ALL GIVEN FREE for selling only 15 pieces of our Jewelry at 10c. each. Write today.
COLUMBIA NOVELTY CO. DEPT. 24. EAST BOSTON, MASS.

Solve This Picture

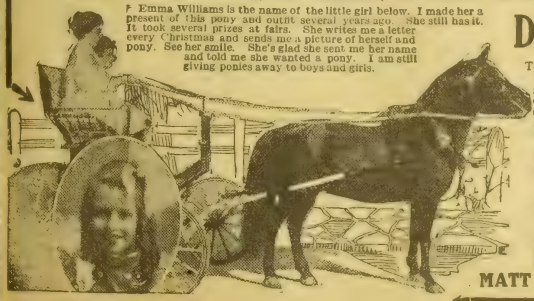
See Our Big Prize Offer Below

A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free. If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)

This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY


Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.

Do You Want This Pony?

The next pony I am going to give away is a beauty—jet black, about 42 inches high, perfectly sound, plump, well trained, kind, and as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one, if you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S5, Springfield, Ohio

HARTMAN'S Special Farm Credit Plan

NO MONEY IN ADVANCE

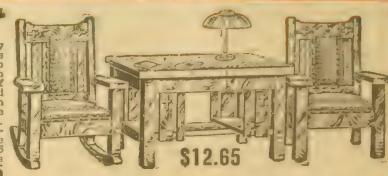
5-Piece, 2-In. Post

Steel Bed Outfit

No. MK148. Elegant 2-inch continuous post Steel Bed with ¾-inch fillers in artistic design, height head end 52 in.; link fabric, steel frame bed spring; cotton top mattress and two 6½ lb. hen feather pillows 18 x 25 in. All sizes, 3 ft.; 3 ft. 6 in.; 4 ft. or 4 ft. 6 in., full size. Colors, White, Pea Green or Vernis Martin. You couldn't duplicate this at our price of.. **$8.98**

Hartman's 3-Piece Library Set Bargain

No. MK184. Made of choice quality solid oak, fumed finish. Table has large 36x24 inch top, fitted with two roomy book ends, with large 7 inch connecting shelf. Panels at sides of book ends match panels on chair and rocker. Chair and rocker made with heavy 2 in. front posts fitted to genuine quarter-sawed oak arms, 20 in. wide. Seats and backs upholstered with imitation Spanish leather over wood fibre and soft cotton jute, supported by 6 heavy steel reinforced springs. Chairs 40in. high; seat 23x19 in. Price, complete set..... **$12.65**



$12.65

Seamless Brussels Rug Bargain

No. MK177. Magnificent, extra heavy, seamless Brussels rug in two sizes, selected yarns—very attractive pattern of semi-oriental design. Looks well in any room in your home. Colorings, Tan, Red, Green and Brown harmoniously blended. So well made and has such good heavy body that it will give you many years of satisfactory service.
Size 8 ft. 3 in. x 10 ft. 6 in. Price..... **$12.74**
Size 9 x 12 feet. Price **13.96**

Rocker Bargain

No. MK176. A large, comfortable Rocker at a bargain price. Solid Oak, golden finish, very choice design. Upholstered with imitation Spanish brown leather. Seat has four springs, stuffed with tow and cotton. Front and back posts are handsomely carved. Seat front plaited, back button tufted. Strong posts and runners. Constructed for solid comfort—a handsome piece of furniture—a rocker that will grace any parlor or living room. Our remarkably low price..... **$3.57**

$3.57

Washing Machine Bargain

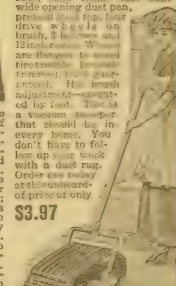
$4.50

No. MK105. Tub is 8 shirt capacity, made of Louisiana red cypress, corrugated on inside for effective rubbing surface. Finished in natural color and bound by three steel hoops. 4-pronged, 10-inch cypress dasher block, cannot slip or crack. Gearing is durable; roller bearings. Here is a machine that will take the drudgery out of wash day for it is very easy to run. Tub is supported by three legs bolted into iron sockets. Does not tear clothes. Do not tire yourself another day rubbing clothes on an old style wash board. Price..... **$4.50**

"Wonder" Vacuum Sweeper Bargain

No. MK182. Here's a wonderful value in an article needed in every home. An easy running, silent vacuum sweeper offered at a price lower than ever before. Has noiseless fibre bearings and bellows lifting rolls, steel frame, dust bag, wide opening dust pan, [illegible] tips, foot drive wheels on brush, 3 brushes and 12 brushes. Wheels are flanged to avoid tire trouble. Improved [illegible] frame, [illegible] action. Has brush adjustment operated by foot. This is a vacuum sweeper that should be in every home. You don't have to follow up your work with a dust rug. Order one today at the thousand-of-price of only

$3.97



Solid Oak Dining Table Bargain

No. MK181. Beautiful solid oak dining table which can be ordered in Golden Oak or fumed finish. Has large 44 inch top which extends to 6 ft. 4 in. rim; heavy octagon pedestal fitted to 24 inch platform which rests upon 4 Colonial scroll legs. Is excellently finished throughout. This is a real bargain at Hartman's remarkably low price of only..... **$11.95**

$11.95

Collapsible Go-Cart

No. MK111. New all steel frame, collapsible Go-Cart folds completely with one motion. Has heavy tubular steel pushers; beautiful ebony handle with silver nickel corners; 3 bow hood; 10 in. wheels with ½ in. cushion rubber tires; metal fenders; 3 bow footwell hood; improved spring construction which guarantees maximum comfort for baby; back adjusts to several different positions. Price includes removable worm front with mica window. Upholstered with Fabricord. Price..... **$6.98**

HARTMAN Will Trust You

Roofing

Made of best quality, long fibre wool felt. Thoroughly saturated with pure asphalt, surfaced with very fine sharp particles of flint crystals thoroughly imbedded under enormous pressure. Strongest, most durable prepared roofing made. Fire-resisting and absolutely water proof. 108 sq. ft. to roll including nails and cement.

No. MK156. 1 ply, guaranteed 5 years...**$1.15**
No. MK157. 2 ply, guaranteed 8 years....**$1.58**
No. MK158. 3 ply, guaranteed 13 years...**$1.98**

FREE Paint Roofing BOOK

Your name and address on a postal brings you this handsome book showing all colors of Rex-Kote Paints and complete line of Free Samples of Hercules Roofing. Write today.

Sensational Bargains

HARTMAN knows that Farmers pay their bills promptly when they sell their crops and stock. So the HARTMAN SPECIAL FARM CREDIT PLAN was originated as a convenience to you Farm Folks. **Your credit is good with Hartman!** Use it. With $10,000,000 capital, over 1,500,000 satisfied customers and an organization that has grown for 60 years to its present stupendous proportions, why should HARTMAN not be glad to accommodate his host of Farm Friends? We ARE glad to do it—and invite you right here and NOW to order direct from this page without sending a cent with your order!

Pay In 3, 6, 9 and 12 Months

Order any or all of the Bargains shown direct from this page—NOW! Simply write letter stating what you want. Send no money—not a cent in advance. HARTMAN will ship the goods without delay—no deposit required—no C. O. D.—no "red tape!"—no security—no interest to pay.

Use the goods for 30 days and if they fail in any way to come up to your expectations, return them at Hartman's expense. If they prove the biggest bargain values you ever heard of—keep them and make your first payment in three months; balance in 3, 6 and 9 month thereafter, giving you a whole year to pay—without interest.

FREE HARTMAN'S Mammoth Bargain Catalog

Pick out everything you need—Furniture, Carpets, Rugs, Curtains, Beds and Bedding, Clocks, Jewelry, Watches, Stoves, Refrigerators, Sewing Machines, Dishes, Washing Machines, Engines, Cream Separators, Incubators, Brooders, etc. You will find your every household need provided for at stupendous price reductions—all sold on HARTMAN'S Special Farm Credit Plan—no money in advance—with a whole year to pay.

WRITE FOR THIS MAMMOTH MONEY SAVER TODAY! Ask for Catalog No. F-218

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4062 LaSalle St., Chicago, Ill.

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Rex-Kote Ready Mixed

House Paint Made from finest, purest ingredients mixed by machinery. Guaranteed against peeling, blistering, chalking or rubbing off and to cover more surface per gallon, make a better finish and last longer than any other. As low as, per gallon..... **$1.02**

Rex-Kote Mineral Barn Paint—can't be equaled for covering and wood preservative qualities. Two tripl colors—brown and red. As low as, per gal. **84c**

Rex-Kote Barn Paint—made from natural asphalt, linseed oil and mineral ingredients that make an absolutely water tight, weather proof paint. As low as, per gal..... **52c**

HARTMAN COMPANY,
4062 La Salle St., Chicago, Ill.

Please send me your Mammoth Bargain Catalog Free.
(In ordering goods direct from this advertisement, write letter giving No. and name of articles wanted.)

Name.....
Address.....
City.....State.....

MAIL COUPON FOR CATALOG

FAS Ag dem

FARM NEWS

Springfield, Ohio February, 1916

STOP! LOOK! READ!

In This Issue: Preparing for Spring Work; Beef-Raising on Cornbelt Farms; Orchard Spraying; Mrs. Patzer's Specialized Effort; Underwood's Dairy Department; Why Apply Lime; The Case of the Clovers; The Home Garden; Concrete Construction; Which is the Best Breed; Meredith's Farm Talk

Arouse Your Money-Making Powers—It's In You—We Know It—We Will Prove It

SINCE the beginning of America as a nation the world has never known such money-makers. Look about you. When you see the man with the big touring car, stop and think. Everywhere the rich men appear. They are tall, short, fat, lean, homely, handsome. Where do they come from? What makes them rich men?

I'll Tell You! It's in the blood of Americans. It's "get there"—"punch." Real money-making—getting it just as a big, exciting, worth-while game. The big men are fellows who take the opportunity right at hand—who don't ask questions or fuss around.

Have I got you interested? Isn't what I say true? Well, I want to tell you of a big opportunity right in your own town, your own county. I am running this big advertisement in this paper in order to smoke out a certain number of men of real caliber. I am going to put money into these men's hands—lots of it. I don't care who you are. You may be the son of a minister, a banker or a laborer. You may be educated or not educated. You don't have to learn any secrets to get in on this offer. What you must have is the desire, the need, the hunger to get on in the world—to put your head up among men—be somebody.

I'll Make You More Money in Less Time Than You Ever Made Before

My Automatic Combination Tool Is a Mechanical Marvel

I could get a hundred thousand of a certain kind of men to work for me tomorrow. You know the kind I mean. The tool is such a wonder, it does so many things and does them so well that any man can sell two or three a day and make $5 or $10.

I want fellows who will make $40 to $50 a day. I want to save the best territory for such men, train them, help them. I want the big money makers. Now think. One man, without training—just my instructions—made $45.50 in one day. Another man $1,000 in one month. If I had room here I could give the names of dozens of men like these.

That's the kind of fellows I'm after. You don't know whether you are one or not, eh? Of course you don't. That rich fellow who owns the big house and the touring car didn't know, once. He had to find it out. I want to show you.

First of All—Write

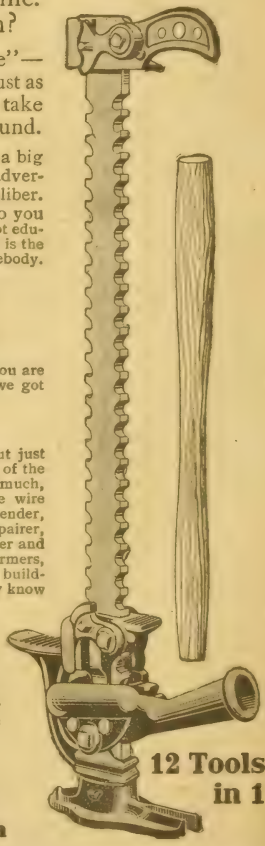
No long letter necessary at all. Just your name and address on a postal card if you are in a hurry. That puts it up to me. I've got to show you and I will

What the Tool Does

I'll tell you more about that later. But just to give you an idea—it does all the work of the old-fashioned jack, that costs almost as much, and eleven other tools besides—single wire stretcher, woven wire stretcher, wire mender, post puller, rail fence repairer, wheel repairer, press, hoist, vise and clamp, stump rooter and alligator wrench. It's a tool that farmers, teamsters, auto owners, contractors and builders have simply got to have. Once they know its merits they want it.

But Let's Get Together

I'll tell you the whole story in all its details as soon as I get your name. That's what I want now. I want you to put it up to me. Just address me or the company. I'll get the letter or the card. And please don't put it off.



12 Tools in 1

Address P. J. Harrah, President

The Harrah Manufacturing Company

32 Main St. **Bloomfield, Indiana**

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The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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Entered at the Springfield, Ohio, Post Office as Second Class Mail Matter

The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI — FEBRUARY 1916 — Number 2

PROFITABLE SUGGESTIONS for our READERS

Of Unusual Interest to All

GREAT FREE OFFERS

You can't afford to miss one of the offers we make in this issue of FARM NEWS. First in importance is the

FREE $5,000.00 CASH

Told about on Page 13. This is the Great $5,000.00 Picturegame Contest, in which the First Prize is $1,500.00, and 502 other prizes, ranging in value from $750.00 to $2.50. Some one is going to get this money, and it might as well be you. Then there is the easiest kind of a chance to win a

FREE AUTOMOBILE

You get the particulars of this contest on Page 38. The machine is a big, roomy 5-passenger car, electrically lighted and equipped, with starter, and it will be delivered without a cent of expense to you at your home. Read what Mr. George who won our last car, says on Page 38.

GRAND FREE PONY OUTFIT

For our boys and girls on Page 41. This outfit is easily worth $250.00, and can be secured easily by some hustling boy or girl. We have given away scores of ponies, and made children happy in every direction in this broad land. Encourage your boy or girl to enter this contest. They will be treated absolutely fair, and will gain an invaluable experience.

SEED CORN FOR THIS YEAR

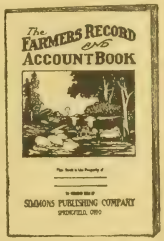
Owing to the very poor condition of last year's corn crop, it is imperative that every farmer who is at all concerned about his crop this year should test his seed corn early. This should be done in order to give us time to secure some reliable seed from some other source, provided our own seed fails to come up to a satisfactory germinating test.

In the case of those who have some seed corn left from year before last, it should be thoroly tested before reliance should be placed in this supply. Actual knowledge as to just what may be depended upon will enable us to determine what sort of a supply is available for this year's crop, and may lead to reduced acreage, and a consequent planning to use the surplus land for other and more profitable purposes. Any farmer who takes a chance with a large acreage with a lot of inferior seed is in a fair way to meet with a heavy loss. It will be infinitely better to have a large crop on fewer acres than to invest the time and labor in seeding and preparing, only to lose heavily on an inferior crop.

Test your seed early. If it proves worthless, get into immediate touch with a reliable supply. Failing in this, it will be a whole lot better to let the land work at something else.

FARM RECORD BOOK FREE

This Farm Record Book is easily kept with only a little time and care, does not require a knowledge of bookkeeping, and has ample space devoted to records of the following items of interest and importance on every farm: Cash Account, Daily Record of Labor, Diagram of Farm, Poultry Breeding Record, Egg and Poultry Record, Stock Breeding Record, Products of Farm for One Year, Inventory of Stock, Tools and Crops, Planting and Seeding Record, Orchard and Fruit Acreage, Improvements Made, and a great many other things necessary to keep an accurate account of all your business transactions.



We will send this Handy Farm Record Book, Free and prepaid, to anyone who sends us 30 cents for a yearly subscription to FARM NEWS. The subscription may be new or renewal, or that of yourself or a neighbor or friend. Send your order to FARM NEWS, Dept. AB, Springfield, Ohio.

KEEPING THE BOY ON THE FARM

There is no way so effective in retaining the boy's interest in his farm home as that of providing him with amusement after his day's work is done. The dreary humdrum existence on the ordinary farm will stagnate the most ambitious boy, unless he is provided with some form of amusement approximating that at the convenient disposal of his city brother. It takes a long time for us to learn that proper amusement at home caters to the animal spirit of the boy or girl, and routs the forces of evil quicker than precept or example. One most fascinating form of amusement for both boys and girls may be found in this issue of FARM NEWS, on Page 31

A FINE BOOK FREE

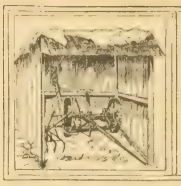
Just the very thing you should have! A postal wil bring it. Gives plans for houses and all kinds of farm buildings. There is no charge. Send for it. See the advertisement of the Southern Cypress Mfrs Ass'n on Page 37.

WILL YOU HELP US?

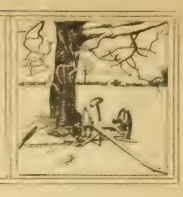
We will help you! We are doing all in our power to make FARM NEWS the best agricultural paper coming into your home. Just think what it would mean to us if every subscriber we have would keep his own subscription paid up, and also send us that of a neighbor friend! Will you do it? We are trying hard to help you fight your battles — will you help us?

HERE'S OUR OFFER

Collect 25 cents from a neighbor, add 10 cents of your own (35 cents in all) and we will send FARM NEWS to your neighbor for one year, and extend your subscription for one year. Isn't that meeting you half-way? It's a small favor we are asking of you. Will you accommodate us? If you will, send the money and the addresses of yourself and neighbor to Subscription Dept. 89, FARM NEWS, Springfield, Ohio.



PREPARATIONS for SPRING



By W. Milton Kelly

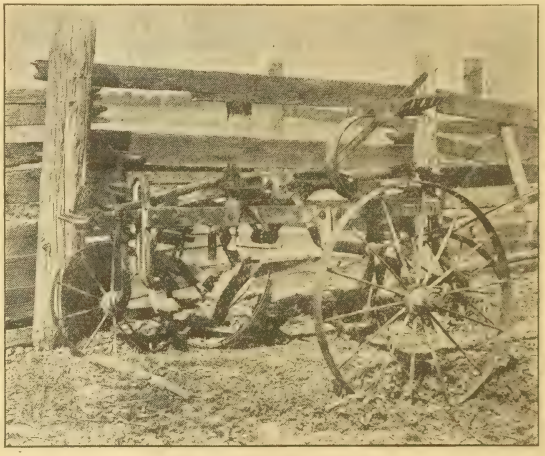
WHILE Congress is busy endeavoring to further plans for national preparedness, farmers should be busy planning a campaign for spring preparedness. Now is the time to give the farm implements a thoro overhauling and get them in shape for another year's work. Do as much as possible this month, and plan carefully for the rest. See to the dozens of little things that will surely annoy and cause serious loss of time in the spring if they are not disposed of now. Whatever can be done in the way of preparation for spring work in the field do now. It will pay to follow this suggestion to the smallest detail.

Examine the plows and see if they need new points. Tighten the burrs, get the eveners and whiffletrees adjusted to the horses that are to be used in plowing. If the harrow teeth are dull have them pointed, put in new bolts, and if the draft rods have been bent when turning around have them straightened. Give the harness a cleaning and oiling, fit them to the horses, especially the collars, so as to avoid galls and sore shoulders. Get the corn-planter adjusted. A man who waits until Saturday afternoon before overhauling his cornplanter for Monday morning may find more to do than he can accomplish in the time at his disposal.

If the grain drill needs repairs send for them and get them in place before it is time to seed the grain and grass seed. Loose taps should be tightened, and dirt and grit removed from parts with whose functions such accumulations may interfere. If any part shows severe wear, or imperfectly does its work, it should be replaced before related parts are affected. It is extravagant economy to run a machine until it collapses. A vast amount of time can be saved and breakage avoided by close attention to these matters. Drills are often misused. One cannot do a satisfactory piece of seeding unless the drill is doing good work.

Now is the time to get the oats and barley cleaned and graded for the drill. Select the best grain for seed and run it through the fanning mill. The drill will distribute clean seed more evenly, and you will have the screenings to grind and feed the stock. This will prevent the foul weed seed from going back to the fields. A great many farmers believe it a good idea to grade their seed grain, and they promise themselves that before they sow any more they will take it to the elevator or some other place and have it graded, but when the rush of work is on the seed goes into the ground without cleaning or grading of any kind. If you decide that it will pay to sow good seed, that it will pay to prevent any more weeds getting on your farm, either through the manure or the seed, that it will pay to make the farm yield the fullest returns for each dollar of capital invested and labor expended, then take a day and run your seed grain through a fanning mill.

Take a walk around the pasture and line fences, and make a note of how many new posts will be needed to put them in shape to hold the stock. Have the posts at hand and sharpened, so that they may be put in place while the ground is still soft. If the gates are broken or need attention, take them into the barn or tool house, and repair them and give them a coat of paint. Nothing adds more to the appearance of a farm than good fences and gates. Let us fix up our fences and gates as though we meant to stay on our farms, and eliminate, so far as possible, the necessity of carrying a hammer and staples around in our pockets, in case the stock get out of the pasture, during the rush of work in the spring. Eleventh-hour preparations in fixing up fences and gates are often mighty expensive.



The plow dying from exposure

Get the manure on the land as soon as possible. It is easier to haul manure over frozen ground than it is when the frost is coming out in the spring. It is better on the land than it is in the barnyards, where the cattle are compelled to wade through it every time they are turned out. It shows poor judgment for a farmer to have his men and teams hauling in the spring when they should be plowing and fitting the land for crops. If the manure is applied in the winter the land will plow easier in the spring, and the early rains will mix it thoroly with the soil, and better crops will result than is the case when it is applied just before the land is plowed.

Clean up the farm burying ground. In other words gather up the old broken machines, odds and ends of wagons, heaps of boards, stones and building materials and piles of junk about the farmyards. If there is anything that will give a visitor a doleful impression of a place it is to see a comprehensive farmyard cemetery — the mower that died young, the binder that the hired man murdered, the sulky plow that died from exposure, and the shed that was destroyed by wind. Many sad tales of tragic events are represented in farmer's backyards. It is dangerous for human beings and for stock to have such old worn-out machines, implements, loose boards and nails lying about the barnyards. Many pretty good farmers start in to clean up, but get no further than hauling every old relic to the farm cemetery back of the barns. Get busy and give these old tools a decent burial. Pile up the wood, burn the trash and sell the old scrap iron to the junk man, and clean up the weeds that have grown up about them. Do not keep all the debris and mistakes of a long life scattered around the barnyards.

The tax of maintenance on the farm is too large to put in flimsy repairs. For the sake of our remaining years on the farm, let us build with more permanence. Let us use concrete steps, cellar doors and hatchways, approaches to the barn doors, floors for wagon sheds and tool houses, well curbs, watering troughs and corner posts. Such repairs may be made when farm work is not pressing, and will last for years. Concrete makes imperishable foundations and floors. Concrete walks about the house and to the barn and poultry houses will save a lot of tracking in mud, and the cost of materials and labor will be so small that one will scarcely notice it.

PRACTICAL FARM MANAGEMENT

With Particular Attention to Drainage and Live Stock

By Lester J. Meredith

OUR DRAINAGE SYSTEM

Never before have we been so favorably impressed with the results from our drainage system as during the past season. A large portion of our crops would surely have been a failure had it not been for our tile drains, installed several years ago. One of our cornfields, in particular, gave us a heavy yield in spite of the fact that we have had the wettest season in years. At least 40 bushels of corn per acre resulted directly from the drainage system, and it is plain to see that such an increase in the one crop will more than half pay for installing the system on the thirty-acre field.

If my figures are correct, the original cost of draining the thirty acres amounted to approximately $38 per acre, although the cost was considerably greater on an adjoining field that was in hay the past season. And these results are somewhat lessened, because for two days the outlets were too full to permit the drains to do their most effective work, but as soon as the water in the main ditch run off the land was promptly drained, and could be cultivated by the seventh day after the outlets were flowing readily.

Our greatest problem has been that of securing outlets, so that the water would not back up at times when the river is high, thus preventing the water draining off promptly after heavy rainfalls. On many farms such things can be prevented without too great an expenditure for dams and pumping systems. We are fully satisfied with our results this season, and would not have the tiles removed for $75 per acre, unless they could be promptly replaced.

It seems like quite an undertaking to put in a complete system of tile drainage, but if the work is planned right at the beginning, so that what may be done each year will fit into a well-planned system, and not be a series of haphazard, disconnected efforts, one can gradually drain his farm without feeling the cost as much as is the case when he goes into debt for the whole amount at one time. Secure the outlets, and then do what is possible from year to year, and the entire system will be completed in a few years. One cannot invest his money where it will be safer, or return a higher per cent of interest than in tile drains on land that is reasonably fertile.

$5,000.00 in Cash Prizes — FREE. See Page 43.

EWES AND LAMBS

At Riverside Farm we breed our ewes to lamb during February and March, while the weather conditions make it necessary to provide the right kind of conditions at the right time. It is almost a hopeless task to attempt to bring a flock of ewes through a season of successful lambing without having proper accommodations to handle them during the cold weather so common at this time of the year. The practice of having the lambs come early is not advisable unless there is ample provision made to give the ewes and lambs proper care.

A few days after the ewes are due to lamb we separate them from the flock and put them in small pens, made by placing panels together so as to form pens five feet wide and six feet long, and have a set of mangers that can be attached to the corners of the pens. By handling the ewes carefully, and regulating their rations so as not to induce a too heavy flow of milk, many of the troubles of lambing time will be avoided.

Never attempt rough handling of the ewe about to lamb. After she is in her new quarters give her an opportunity to become familiar with her surroundings before annoying her. As a rule it is best to leave her entirely alone while yeaning, unless she is experiencing unnecessary trouble when a little timely assistance will often prove beneficial in conserving her strength. Keep her as quiet as possible, and do not allow strangers to come into the sheep barns.

If the temperature of the stable at the time the ewes are lambing is below normal it is necessary to give the young lambs close attention until they are strong enough to take nourishment. As soon as the lamb comes, have some old rags handy and wipe dry as soon as possible. When the weather is severe it pays to give the lambs the best of care, and get them to nursing as soon as possible, as a little new milk will work wonders in bringing them round in a strong and vigorous condition. If the lambs are too weak to nurse feed them a little fresh cow's milk until they gain strength. Many lambs can be saved by a little attention at this critical period.

In many instances difficulty is experienced in starting the milk flow of the ewe. Lambs frequently die from want of milk when the ewe's udder is apparently full and well developed. As soon as the lamb is born and been properly looked after, examine the condition of the ewe's udder and see that the milk flow starts properly. Some ewes are heavy milkers, and when the milk is not started properly garget results, and the milk wells become badly infected. It is good practice to wash the udders with hot water, just as hot as one can stand. A few applications of hot water will prevent further trouble, and help stimulate the flow of milk.

It is not safe to begin heavy feeding until several days after lambing, when the grain ration may be gradually restored and some kind of succulent feed added. As soon as the lambs begin to grow and take nourishment, the ewes should have an abundance of bone, blood and muscle building feeds. Roots, silage, clover hay, bran, oats, barley and oilcake are the kinds of feed needed to build up vigor in the ewe, and provide an abundance of milk for the lamb.

Do you want a pony, carriage, harness, saddle and bridle? See how easy it is to get all this on Page 41.

MANAGEMENT OF BREEDING BULLS

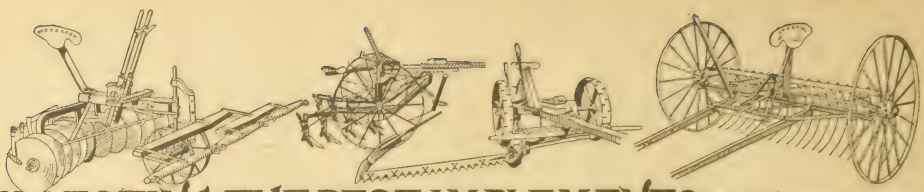
The care and management of breeding bulls is an important factor in securing healthy and vigorous calves. The average bull is discarded at a time when he should be in his prime, because he has been improperly managed. He must have plenty of nourishing food,

proper exercise, clean surroundings and not be allowed to serve too many cows when young.

Plenty of wholesome food, without too large a proportion of roughage, will insure an even growth and development. Such feeds as oats, wheat bran, oilmeal, clover, alfalfa and mixed hay, silage in moderate quantities, and root crops will provide an ideal ration. A reasonable amount of exercise tends to harden the muscles, stimulates digestion, circulation, and develops stamina and general traits of character.

Too many bulls are kept in a small pen or stall from one year's end to another. A clean and roomy box stall, with an adjoining yard, will furnish an ideal place for the bull to exercise. Too much service, when young is a serious mistake. The yearling bull should not serve more than 40 cows in one season, distributed over three or four months. By giving the bulls plenty of suitable

(Concluded on Page 44)



SELECTING THE BEST IMPLEMENTS

BY W. MILTON KELLY.

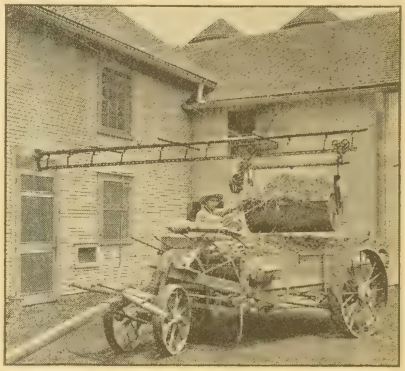
IT REQUIRES the mind of a master farmer to distinguish sharply between the cost of a machine or implement and its economic utility. The price of labor-saving machinery is an expression of its value in terms of money. Its utility depends upon its capacity to lessen the cost of production. A careful study of this branch of farm economics would save the farmers of America millions of dollars each year.

It is a fundamental principle with all industries that the equipment must be kept in constant productive use. Idle machinery brings no income. The manufacturer who keeps his machinery in constant use has a more accurate basis to figure on in buying machinery to replace labor than the farmer whose machinery must lie idle so many months during the year. The cost of many labor-saving machines is so great that it precludes their use on the farm where they would be used only a few days during the year. For example, suppose I perfect a machine at a cost of $10,000 that will transplant ten acres of berry plants in a day. Will it be worth $10,000? Certainly not; but why not? The cost is so great that the machine will not prove an economic utility. On the other hand, suppose I perfect a similar machine at a cost of $200? Will it be worth $200? Yes, it will providing, of course, that the owner is an extensive berry-grower, and has difficulty in hiring good help when it is needed.

Among modern farm machines the manure spreader stands in a foremost position. It not only saves labor, but it increases the value of the manure crop. Old methods of spreading manure must pass. It must be made to go further, and our policy should be to cover every acre during a rotation of crops. There are two methods of doing this economically: One is to allow stock to scatter it when feeding upon the land, a method which can be adopted with only partial success, the other by use of the manure spreader.

In common farm practice the use of the manure spreader enhances the value of the manure one-third. The farmer who has 100 tons of manure worth $2.50 per ton, will receive a direct benefit of more than $80.00 through the more economic use of this plantfood if he applies his manure with a spreader. This, with the saving of labor, and considering that the machine will last many years, shows that a manure spreader, costing from $100 to $150 is an economic utility. Many farmers look upon the saving of labor as the most important reason for having a spreader. It is in reality the least important.

The modern manure spreader is built so as to give it capacity for a large load, and unless the land is dry and level, it is best to attach three or four horses to facilitate the work of hauling. The lugs on the wheels give traction enough to carry a load and spread it, even when the land is covered with snow and ice. When buying a machine, notice how strong it is built where the wear is greatest when in operation. It should distribute all kinds of manure evenly, and spread the same quantity on the outside as in the center of the space that is being covered. This is a point of great importance, and should be investigated when buying a machine.



The spreader is a necessary implement in saving the largest amount of fertility in the manure

The farm cream separator saves time, risk and money. This is considerable for one machine to do. It is steadily gaining ground on its merits. Where it has been given adequate opportunity to become a regular factor in the everyday work of the dairy, it has made itself indispensable. Contrary to the usual order of things this innovation, which necessity compelled many dairymen in the far West to use, has been making an eastward progress across the country. It has come from the great centralized districts of the West, where hundreds of miles separate the dairy farm from the creamery. Dairy farmers here in the East and Middle West used to say that such a machine was a preposterous impossibility on the farm situated near the creamery. It would take too much time to separate the cream on the farm.

Reasoning stubbornly along these lines, some dairy farmers still argue that it is better to haul the milk to the creamery and haul back skimmilk and water of doubtful feeding value, perhaps laden with disease-producing bacteria, than it is to separate the cream on the farm and sell it to the creamery. Perhaps a little time may be saved by hauling the whole milk to a creamery, but what is that compared with the additional value of the skimmilk for feeding calves and pigs, and the risk that one assumes in feeding skimmilk from disease-producing tanks at the public creamery?

Naturally enough it has been the dairy farmer of some means, who has taken an interest in maintaining the health of his stock, who has demonstrated to his neighbors that the cream separator is one of the economic necessities of the well-organized dairy farm. As dairying has assumed the aspect of a science, and dairy farmers have begun to appreciate the advantages of using better machinery and sanitary methods of producing and manufacturing their products, the use of the cream separator on the farm has increased enormously, adding many new and interesting possibilities to the production and marketing of the products of the dairy farm.

Whenever dairy farmers begin seriously to study the real business end of their vocation they discover the need of economy. To eliminate waste and add to the value of their products are of great importance, and experience has shown that these ends are gained by the use of the cream separator on the farm. Simplicity, adaptability and reliability are the strongest recommendations that can come from the manufacturer of these machines. Several types and makes are adapated to use on the farm. They are easy to operate and will last for years if given proper care.

It is generally conceded that the milk from eight cows, separated with a separator, will yield as much butterfat as the milk from nine or ten equally good cows, if the milk is handled the old way. When a man who is milking eight cows can increase his output one-eighth, simplify the labor in the milk

room, and enhance the value of his product from 10 to 20 per cent, it is convincing proof that a cream separator that can be bought for from $35 to $100, and used every day in the year, is an economic utility in the dairy.

Without a machine for digging, the work of harvesting a crop of potatoes is a long and tedious task, and every man who grows this crop should plan to have enough acres planted to make it profitable for him to own a machine, or at least an interest in one. The modern potato-digger does cleaner work than is usually done by hand, fewer of the tubers are injured, and the cost of harvesting the crop is reduced about three cents per bushel. The use of the digger is equal to plowing the ground once, when a crop of wheat or rye succeeds the potato crop in the rotation.

The best machines are the ones that lift the soil and the tubers from the row, and sift the soil from the tubers, and allow them to fall on the loose soil in the row. These improved machines cost from $60 to $100, and are cheaper in the end than those that can be bought for less money. There are several makes of diggers in the field, but the only way to determine which one is best adapted to the soil on one's farm is to have a field test. Any machine agent should be willing to have his machine tested, if he has confidence in it himself. Clean work should be demanded of any machine, for after growing a good crop of potatoes it should not be lost by using poor machinery in harvesting. If the soil is heavy do not expect a machine to do a good piece of work without strong horses that will handle it to advantage. The potato-digger is indispensable to the man who grows a large acreage of the crop. By growing four or five acres of potatoes one can make it an economic utility.

The milking-machine fills a long felt want on the large dairy farm. It makes it possible to handle a large herd of cows with a smaller working force than is possible without it. The dairy farmer who employs one hand for a herd of from 15 to 20 cows will find the milking-machine less profitable than one who keeps more cows. The time required to clean the machine and keep it sanitary will about equal the time required to milk the smaller number of cows by hand. To prove economically useful the herd should be of sufficient size to warrant the investment. My personal experience has shown that a 30 to 40 cow dairy with a milking-machine and two men can be conducted as efficiently as a 26 cow dairy without a milking-machine. We have kept from 24 to 40 cows for the past eight years, and have used milking-machines for five years, and have never had any bad results from its use since we became familiar with operating it. The cows seem to prefer machine milking; it is more sanitary and easier, and enables two men to do the work that it formerly required three to do.

It cost about $700 to install the outfit, including a gasoline engine, which is also used for cutting fodder, pumping water, and doing other odd jobs about the dairy barn and tool house. The outfit has saved twice its original cost during the five years. If all machines work as successfully as this, no dairy farmer with 25 cows need hesitate to invest in one. We have found that young heifers that have never been hand milked, except possibly for a few days following calving, respond readily to the machine. We have always made it a practice to keep close watch of our cows, and hand milking cows which are being dried off, and sometimes fresh milkers for a few days until their udder becomes normal.

One word of caution in regard to stripping after the machine. Let no man tell you that stripping is unnecessary with his particular machine. The last small amount of milk in the cow's udder is the richest milk that she gives, and should be saved. Then, too, no dairyman can afford to run the risk of losing a good cow when a little extra time will assure him that her udder is in proper condition. Hand milk any cow that shows signs of udder trouble until she returns to normal condition. The milking-machine will not eliminate hard work and painstaking effort from the dairy farm any more than some other inventions, but with good care and the use of good judgment it will prove a time and labor saver, and will be a help in producing a clean and sanitary article of food.

See our "Will you help us" notice on Page 3.

NO "FRILLS"

Just a Statement About Food

Sometimes a good, healthy commercial traveler suffers from poorly selected food and is lucky if he learns that Grape-Nuts food will put him right.

A Cincinnati traveler writes: "About a year ago my stomach got in a bad way. I had a headache most of the time and suffered misery. For several months I ran down until I lost about 70 pounds in weight and finally had to give up a good position and go home. Any food that I might use seemed to nauseate me.

"My wife, hardly knowing what to do, one day brought home a package of Grape-Nuts food and coaxed me to try it. I told her it was no use but finally to humor her I tried a little and they just struck my taste. It was the first food that I had eaten in nearly a year that did not cause any suffering.

"Well, to make a long story short, I began to improve and stuck to Grape-Nuts. I went up from 135 pounds in December to 194 pounds the following October.

"My brain is clear, blood all right and appetite too much for any man's pocket-book. In fact, I am thoroughly made over and owe it all to Grape-Nuts. I talk so much about what Grape-Nuts will do that some of the men on the road have nicknamed me 'Grape-Nuts,' but I stand today a healthy, rosy-cheeked man — a pretty good example of what the right kind of food will do.

"You can publish this if you want to. It is a true statement without any frills."

Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Grand Prize, Panama-Pacific Exposition, San Francisco, 1915
Grand Prize, Panama-California Exposition, San Diego, 1915

Baker's Breakfast Cocoa

The Food Drink Without a Fault

Made of high-grade cocoa beans, skilfully blended and manufactured by a perfect mechanical process, without the use of chemicals; it is absolutely pure and wholesome, and its flavor is delicious, the natural flavor of the cocoa bean.

The genuine bears this trade-mark, and is made only by

Walter Baker & Co. Ltd.

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DORCHESTER, MASS.

Free Try-On

of These Everwearing RACINE Aluminum Shoes

These shoes save doctor's bills by keeping your feet dry and warm. Outwear many pairs of leather. Racine Aluminum shoes wear better than any other metal shoe.

Save You Shoe Money

Patent Rocker Bar Helps You Walk

Makes walking easy. Comfortable as carpet slippers, yet waterproof, slushproof, puncture-proof. Protect you from Colds, Rheumatism, Lumbago, Pneumonia. Write for Free Book: *Aluminum the Sole of Health.*

RACINE ALUMINUM SHOE CO., 51 12th St., Racine, Wis.

Veterinary Course at Home

$1500 A YEAR and upwards can be made by taking our Veterinary course at home during spare time. Taught in simplest English. Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

Dr. E. H. Baldwin writes: "I took the course for my own benefit on the farm, but the success I had started me in practice and now I am going night and day. Your course has been worth thousands to me, and will be to any man."

Write for particulars

The London Veterinary Correspondence School Dept. 67
London, Ontario, Canada

Spring Orchard Spraying

Descriptive Article on Predaceous Insects Which Prey Upon the Orchard, and Treatment for Same

By Alvah H. Pulver

THE adherents of the theory of spraying need no longer plead their cause. Time has shown which side of the ledger is always affected by denying the orchards such modern treatment as the various sprays at the right season.

The codling moth, the larvae of which cause what is known as wormy apples, was the first insect to find its doom by spraying. The codling moth miller usually appears about the time that the apples are in bloom. It does not work in the daytime, only at night. It is a little gray miller, sometimes attracted by light in limited quantities. This miller commences to lay its eggs about the time the apples are the size of hickory nuts. For many years it was thought that the miller laid its eggs in the calyx end of the apple, but recently it has been shown that they lay them anywhere on the apple or in the foliage.

In about twelve days a worm is hatched which begins at once to crawl over the apple, seeking a hiding place. About 90 per cent of them get into the calyx end of the apple. The worm works into the apple until it strikes the seed, which is the life of the apple. In this way they kill the fruit, and it drops to the ground. After completing its life in the apple the worm crawls out and again seeks a hiding place in which to pass to the pupa state. After two or three weeks it emerges as an adult miller, and commences to lay eggs on the fruit and foliage. This makes the second brood, and usually follows the first by about 45 days, affected somewhat by the weather. So much for the history. Now as to the remedy:

A spray containing two pounds of arsenate of lead to fifty gallons of water should be applied to the tree thoroly after the apple blossoms have dropped, but while the apple still stands upright, and before the calyx end is closed. This will control them. If a minute amount of this poison can be enclosed in the calyx end when the larva of the moth crawls in, its first meal will be its last. About August first a second spray of like nature is used to wipe out any of the second brood that may be around.

The next insect of importance that attacks the apple trees may be called the San Jose scale. It appeared in Western New York about 1900. It was imported from Asia into California and has since spread quite generally thruout the East. This insect works on the bodies and limbs of trees, and, if thick, spreads over to the apples and foliage. It is very small, but its power of multiplication is beyond human conception. Soon after birth the young crawl away from the mother, and at once begin to bore thru the outer bark to the inner, where they sustain themselves by drawing on the sap. A scale or covering soon forms over them while they increase incredibly fast. They are spread by birds, bees and other insects.

Method of control: Spray the trees while dormant, that is before the foliage is started, with lime and sulphur, and this requires very thoro work. Every particle of the tree, on every side of every bud and limb must be hit. The strength of the solution to control San Jose scale ought to be one gallon of concentrated lime and sulphur, which shows a Baume test of 33, to six gallons of water. Or, if the homemade lime and sulphur is used, and it does not show a Baume test of over 30, it should be mixed in proportion to attain it.

Badly infested with tent caterpillars

There are several families of the leaf rollers that attack apple trees, but they are usually easily controlled by using arsenate of lead, two pounds to fifty gallons of water, put on before the bloom.

In certain parts of the country, orchards have been badly infested with the cankerworm. This is a striped worm with two long hairs or prongs. This worm eats the lining out of the foliage, and makes it look as though the leaves had been burned with fire. These worms spin a web, and when the tree is shaken they will run down the web and hang below the tree. In the fall they go into the ground near the body of the tree, and during the first warm days in March the females crawl out of the ground and up the tree to the topmost branches. The males have wings and fly. After mating the females lay eggs a little before the apple trees are in bloom, and these hatch into worms soon after the trees are in bloom. It does not take long to make an apple tree look as though fire had been through it when they get to working.

The remedy: When there has been a bad infestation the method is to scrape a circle of rough bark off from the body of the tree, about the first of March, and then take a piece of fine window screen, wrap the top edge of it around the tree very closely, leaving the bottom edge open and fasten it with a tack so that the females in crawling up the tree will get caught under it and held back. Where badly infested the trees should be examined every day, and the females lodged in the wire killed in some way. Then, by an application of two pounds of arsenate of lead to fifty gallons of water in the spray before the bloom, and in the spray after the bloom, the worms that might hatch out will be taken care of.

The two families of the aphis, the green aphis and the pink aphis, are most difficult to control when badly infested, and are declared by some experienced growers to be the most serious insects that attack the apples today. Neither of these families, whose eggs are laid on the new growth of the twigs in the fall, seem to be affected by any change of temperature. Nothing but an ice storm that stays on two or three days, and that would not take all of them. The green aphis hatches out at the time that the leaf buds are breaking, and crawls into the opening bud. They are not capable of much damage at this point, but soon get wings and leave the apple tree, going off to the weeds, but getting back into the tree by the first of July. They seldom do very much damage to the old apple trees, their greatest damage being done to the younger ones.

The pink aphis hatches out soon after the green one, and the brood multiplies rapidly. Usually they do not appear to be doing any damage until after the bloom, when we suddenly find that the leaves on the underside of the trees are all curled up with them. They are then on the trees by the million. If not destroyed they soon spread to the small apples, and this is the same family of aphis that has done such immense damage to the apple crop in Western New York in recent years.

There are three predaceous insects that feed upon them, and are the true friends of the orchardist: The lady bug and its larvae, the larvae of the surface fly and the larvae of the laced

(Concluded on Page 16)

HARTMAN'S Special Farm Credit Plan

HARTMAN'S Sensational Bargains

Look at the bargains on this page. Every one is a big money saver. You couldn't begin to buy elsewhere, paint and roofing, or an incubator, brooder or cream separator of the Hartman high quality at anywhere near the low prices we ask, even were you to pay all cash. On the Hartman Special Farm Credit Plan you are not required to send one cent with your order. You **see** and **test** the quality of your purchase before you **decide** to buy and, if goods are satisfactory you have practically your own time to pay.

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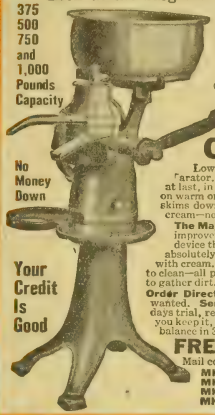

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The Majestic Cream Separator has all the latest improvements including remarkable inside oiling device that keeps gearing perfectly lubricated and absolutely prevents a drop of oil coming in contact with cream. Improved separable disc bowl. Simplest to clean—all parts readily accessible—no nooks or corners to gather dirt.

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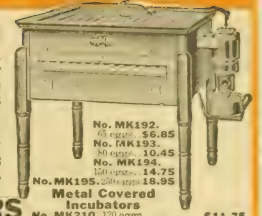

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Winning Contributions Show That Farm News Readers Are Farmers Who Think and Do Good Work

The First Prize, $5.00, was awarded in this contest to Bernhard Rheingold, of New York. The Second Prize, $3.00, was awarded to Harry D. Akers, of Indiana. This contest will be continued for February, and the same prizes, $5.00 in Cash for what we consider the best article telling of any special effort on the farm, such as given below, $3.00 for the next best, and $1.00 for each other one used. Send contributions to Prize Contribution Editor, Farm News, Springfield, Ohio.

PROFIT IN SMALL FRUITS

By Bernhard Rheingold, New York

Any farmer who does not grow small fruits, such as raspberries, strawberries, currants, gooseberries, etc., cannot realize what he and his family are missing. Every farmer should have at least a few rows of each kind of berry, so that his family can enjoy a variety of fresh fruit thruout the summer and fall. The housewife may also can and preserve a variety of edibles to last thru the winter.

There is probably no pleasure as complete as going out into one's own garden and bringing in a lot of fine berries, fresh from the vine, to be served as the family likes them best. And, these small fruits do not require any more care than the ordinary garden plant. Then, too, anyone living within easy distance of a market or city can make a nice profit selling these fruits. The strawberry ripens early in the season, when everybody is craving fresh fruit. This is followed by the raspberry, which also appears before the craving for fresh fruit is fully satisfied, and are consumed in large quantities by city folks.

For the past ten years I have watched the demand and prices of our markets, and while some seasons we sell at a loss (due to a gent on the market) there is always a demand greater than the supply for berries. I have also found that many city customers will pay two cents or more to get a berry of unmistakable quality. I live six miles from a large city, and for the last three years I have added small fruits to my general farming. Each year I have increased my plats of small fruits, the red raspberry and strawberry being the fruits upon which I specialize for market purposes. My success with the red raspberry was particularly pleasing. In the spring of 1913 I set out 1,000 plants of the Cuthbert red raspberry. I selected a clay loam soil, which was well drained, and had produced a crop of potatoes the year before. I hauled out about ten loads of manure to the acre, plowed to a depth of twelve inches, and harrowed several times until the soil was in good condition. I set out the canes 3x6 feet, marking the ground each way, and furrowing out the ground one way. I planted them two inches deeper than they grew in the nursery, and covered them with moist soil, working it thoroly in and around the plants. The remainder of the furrows were filled in by frequent cultivation.

The first year I planted tomato plants between the rows of berries, and it paid well for the cultivation. I gave it clean, thoro cultivation the entire summer, so that by the next year I had a vigorous growth of fruiting canes. The next spring, just as soon as the ground could be worked, I commenced to cultivate, and continued until the canes were in bloom, always keeping a mulch on the surface to conserve the moisture. In pruning, I cut out all the dead wood, and head in the canes, leaving only four to five canes to a bush. In this way I get a large, fine berry.

The first year's yield, the second summer after planting, I picked 500 quarts of good quality berries, which sold at a maximum price of 18 cents a quart, and a minimum price of 12 cents. After deducting all expenses, including labor, there was $58.00 profit. Last year, altho the season was unfavorable on account of the rain, I realized a clear profit of $125.00 an acre from my raspberry plat.

SOIL IMPROVEMENT

By Harry D. Akers, Indiana

Five years ago we bought forty-three acres of land adjoining our home place of eighty.

This small farm was at the time what some call "run-down." It had for the most part been rented for years and had reached the stage where timothy was the best crop that could be raised. In fact at the time of purchase we bought ten acres of corn in the field averaging twelve bushels per acre.

We bought this in the fall and proceeded immediately to get ready for the spring crop. This field that averaged twelve bushels of corn per acre in a good corn year was all clay soil. During the winter this field was covered with a heavy coat of manure, fresh from the stables of Lebanon, which is two miles distant. This was done at a cost of only time and labor, as the manure was given away for the hauling.

The New Portable—A Real One-Man Stump Puller

Proven a most economical device for clearing stump land. Pulls stumps *faster, cheaper* and with less work. Your fifteen-year-old boy can drive it around, load and unload it alone. The

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Comes equipped complete, ready for work. The new portable is the greatest development in stump pullers of today. One man handles the job alone, no extra help needed. Think of the tremendous saving of two extra men at $2.25 per day. **Hercules Beats Hand-Power Machine.** In Minnesota State Experimental Farm test the Hercules pulled more stumps than a hand-power machine and pulled the stumps at **61% less cost.** Think of it, 61% cheaper for you to operate the Hercules. The Hercules, at another State Experimental Farm test, pulled stumps at 70% less cost than dynamite. Write me your stump pulling problems today. Tell me just how much land you have to clear. I'll tell you how to get stumps out for the least money. The stump puller that **will save you money** and **do the work faster** and **safer** is the puller you want. A card from you today brings my special low price, the most remarkable stump puller offer ever made—all facts and proof, with full particulars also information regarding **Hercules Hand-Power Machine with 120,000 lbs. pull.** My book contains a fund of practical, useful information. Write for it today. B. A. Fuller, Pres. **HERCULES MFG. CO., 574 24th St., Centerville, Ia.**

Early in the spring this field was double disked and thoroly pulverized with the harrow. We drilled oats two and a half bushels per acre, and seeded it with English clover. The yield was 58 bushels per acre. A fine stand of clover was secured, due to the coating of manure. This field was pastured with hogs the next summer.

During the same winter, thirteen acres that had been in corn was also covered with a heavy coat of manure, and put in corn. It was plowed rather deep, thoroly pulverized and thoroly cultivated, and yielded 53 bushels per acre. That fall we sowed twenty-three acres of wheat, again using a winter top dressing of manure. Nature was somewhat against a wheat crop that year, but it averaged 22 bushels per acre as compared with 12 bushels per acre on neighboring farms.

In the fall of the third year we broke twenty-five acres of wheat stubble. During the winter another coat of manure was put on. This field was put in corn and yielded 57 bushels per acre, an exceedingly dry year cutting the yield considerably.

Last fall a year ago the usual warnings concerning the wheat crop was sent out by Purdue and the local press. We argued the question considerably, and decided to sow at an early date, finishing September 11. Of couse this was contrary to scientific farming. Some of our neighbors informed us that the fly would live fat at our expense. But last year was an exception in "fly history," and some folks are still busy explaining the caprices of nature. During the winter, which was certainly ideal for wheat, we top dressed this wheat with manure. It averaged 33 bushels per acre, the yield being cut down by having sowed half the field in Kharkoff and half in Red Wave. Red Wave was far better in yield and quality, showing the necessity for the farmer finding the variety suited to his particular needs. We also got a fine set of clover.

For the past three years fifteen acres of the lightest soil has been pastured with hogs, sheep or cattle, and has also been covered with manure three times. By this time you may think "covered with manure" has been overworked, but that is what adds "pep" to the farm and makes it possible to support twice the live stock as before.

Next year no corn will be grown on that farm, as it is now in grass, but we are satisfied that any part of it is now capable of a high production of any of our farm crops.

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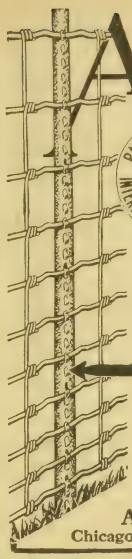

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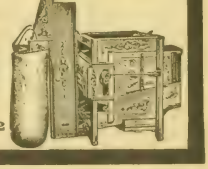
Best Offer I Ever Made on a Chatham Grader and Cleaner



This Big Book also tells you how you can get my latest model Chatham Grain Grader and Cleaner at an **astoundingly low price**; how you can try the machine **30 days free**; how you can buy on **easy credit terms**.

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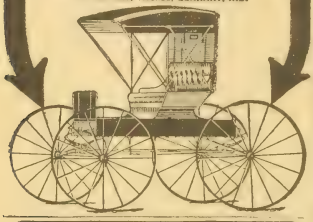

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Why Apply Lime?

Some Reasons and Occasions for the Application of This Valuable Help to Agriculture

By E. Victor Underwood

THE main reason for applying lime is to correct or neutralize the acid condition of the soil. When we plow under organic matter it decays, and in this process the land becomes sour. In order to build up the soil we must have the organic matter, but it tends to produce a sour condition of the soil. Therefore as the soil becomes richer it grows more and more sour, unless something is added to counteract the acidity and produce a sweet or alkaline condition.

Lime leaches, and for that reason benefits from its application are often times derived in limestone regions. If this is true in a limestone belt it is obvious that in a region not having any limestone that an application would not only be beneficial, but be almost a necessity. Consider for a moment the interior of the teakettle the housewife uses. It is covered with a coating of lime. The water used in this kettle comes from the bottom of the well. If water has leached out the lime from the land for years, why is it not reasonable to believe that the lime content is low, especially if you are in a region which is not limestone in nature.

As was stated in the beginning, the main reason for adding lime to the soil is to correct an acid condition. Bacteria which live on the roots of legumes, such as alfalfa, clovers, vetch, soy beans, and the like, have the power of storing up nitrogen in a form which plants can use. These bacteria cannot live in a sour soil, hence this process is not carried on, and the supply of nitrogen stored up is very small.

That lime in Oswego county, New York, is beneficial is generally conceded and the results are constantly brought to our attention. The illustration shown is typical of results obtained the second year after application of ground limestone is made.

This field is located on the farm of A. P. Houghton, in Parish. The field was a rundown meadow, and was plowed in the spring of 1913 and planted to corn, using 300 pounds to 2-10-8 fertilizer. It was plowed in the fall of 1913, and manured in winter with about twelve loads per acre. Seeded to oats in spring of 1914, using two bushels and one peck per acre, seeding with eight quarts timothy and four quarts of mammoth clover. Two hundred pounds of a fertilizer containing 10-10 phosphoric acid and potash was applied per acre. Ground limestone was applied at the rate of two tons per acre to a part of the field before fitting the soil.

Last fall Mr. Houghton states that there was very little difference to be seen between the limed and unlimed portions of the field. This spring the benefit of lime could be seen from the start, and at haying time there was a distinct line, showing where the lime had not been applied. On one side there was a good stand of clover, while on the other the stand of clover was much less and the growth much shorter.

A representative square rod was cut out from each portion of the field and cured, and the yield per acre determined. The results obtained are as follows:

Showing the results on limed and unlimed plats in the hayfield

Yield cured hay (limed)	4.38 tons
Yield cured hay (unlimed)	1.94 tons
Increase in tons cured hay	2.44 tons

The lime at the time this was applied cost $2.50 per ton, or $5.00 per acre. The value of increased hay at $10.00 per ton would be approximately $25.00, less $5.00 the cost of lime, leaving a gain of $20.00 per acre. Of course there would be the labor of applying the lime and of harvesting the extra amount of hay, but the fact remains that the increase was a paying proposition the first year, to say nothing of the benefits which will be derived in the crops to follow.

WHAT FORM TO USE

In Oswego county it is found that ground limestone is more universally used than quicklime, due in part to

the fact that the county is almost surrounded by limestone quarries. As a result of this limestone can be laid down at any point in the county at a reasonable price.

In deciding on the form to use, whether quicklime or ground limestone, take into consideration the initial cost of the material, freight rate, distance to haul, ease of handling, etc. The quicklime is harder to handle, but only one ton is needed to get the same results as you receive from two tons of ground limestone.

AMOUNTS TO USE

It has been found during the past year that an application of two tons of ground limestone per acre has given good results, and is recommended as a general application. In preparing for alfalfa a somewhat heavier application is advisable on many soils. In order to be sure of the best amount to use, a farmer must try it out under his own conditions.

WHEN TO ADD LIME

The general practice which is being followed with good results is to apply the lime to the rough plowed land for oats, and then harrow it in. Ground limestone, however, can be applied with good results at any time. If put on oat land results should appear the following year on the first crop of clover harvested. In some cases differences have been apparent the first season, but ordinarily it is the second season before definite results can be seen.

THINGS TO CONSIDER

Wood ashes and lime should not be mixed with yard manure, bone tankage, fish scrap, dried blood, sulphate of ammonia, acid phosphate, nor with mixtures containing these substances.

LIME DOES NOT TAKE THE PLACE OF FERTILIZER OR MANURE

"The Ohio experiments illustrate the fact that lime does not take the place of fertilizers or manure, but supplements them. When the use of lime in any form is continued alone, and no adequate provision is made for maintaining the supply of fertilizers and organic matter, crop yields cannot be kept up, and the returns from the use of lime in such a system becomes less and may finally drop below that of land unlimed."—Extract from Bulletin 400, Geneva Experiment Station.

COUNTY AGENT DEMONSTRATES

County Agent Harry Gray, of Wells County, Indiana, states that one of his members has made a good demonstration of fertilizing wheat and oats. He had two plots of wheat side by side this last season. The fertilized plot made 27.1 bushels and the unfertilized made 11.3 bushels. On five acres of oats where fertilizers were used, 400 bushels were made, or 80 bushels per acre. An unfertilized plot under the same climatic and other conditions returned only 232 bushels from the five acres, or an average of 46.4 bushels to the acre. In addition, the land which had been fertilized was increased n value—a factor sometimes unconsidered.

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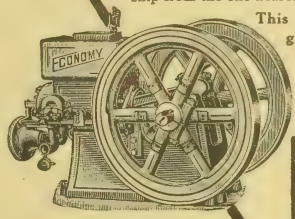

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Beef-Raising on Cornbelt Farms

Supplementing the Excellent Article on This Vital Subject Last Month

By Lester J. Meredith

CONSIDERING the fact that beef production is not keeping pace with the increase in population of the country, the logical course for the farmers in the cornbelt to follow is to increase the number of beef-breeding cattle on their farms. By maintaining a herd of breeding cattle and young stock, one can reduce the expenses for hired labor and convert the grass and rough feed into money, at the same time encouraging better crop rotations, and the growing of crops that will supply feed and leave more fertility in the soil.

The great work that cattle should perform in conserving soil fertility cannot be performed by buying feeders to convert the corn crop into beef. There is a crying need for breeding cattle and young stock to consume the large quantities of cheap, bulky feeds, and convert them into dollars and fertility. If cornbelt farmers are to put beef production on a permanently profitable basis, they must devise systems of feeding that will make grass and forage crops pay in immediate dollars as well as through increased future crops, and straw and cornstalks yield somewhat of cash value while giving up their fertility to the fields. Cows and calves can perform this service better than fattening steers. Cows require little grain, and will eat far more grass and roughage than fat steers. They furnish their calves at the feed lot at first cost, and without the loss and shrink that accompanies railway shipment and change of conditions.

Thoughtful students of the present economic conditions and tendencies confronting the cattle-feeding industry, express the belief that the farm must eventually become the source of supply of beef in America. The profitable results that have attended the breeding and finishing of young beef cattle the last few years, have been an eye-opener to many feeders who have depended upon the market for their feeders. It has been amply demonstrated that beef can be profitably produced on high-priced land in the cornbelt. Obviously there is as much money in raising a good vigorous calf as there is in growing grain, especially if the manure is included as an asset in computing the profits of the feeding.

In discussing the problem of establishing herds of beef-breeding cattle on cornbelt farms, one of the first things to be considered is to devise means of financing the business by means of loans which may extend over a period of years rather than months. The present system of short-time loans to finace the purchase of stockers and feeders, and depending upon payment as soon as the cattle can be conditioned for market, does not work to the advatage of the man who is getting together a herd of breeding cattle. His capital must be tied up in a herd of cows for two or three years before the produce will be ready for market in sufficient numbers to pay anything on the principal of the loan. The inability to secure capital under these conditions is probably the main reason for the deficiency in the supply of beef cattle.

Another phase of cornbelt farming that needs attention is the system of short-term leases given the tenant farmer, whereby he rents a farm for one, two or three years, and his interest lies in getting the last dollar out of the farm during the time of the lease. The soil is worked to the limit, little or no fertility going back, and the productivity constantly diminishing from year to year. The tenant farmer has neither the capital, credit nor conveniences to raise beef cattle in any numbers. He must raise grain and sell it as soon as possible to pay his rent and support his family.

For several years the writer has advocated a partnership plan of renting rather than that of farm tenancy. In many instances experts and landowners have criticised my writings along this line, claiming the landowners could not afford to deal so liberally with tenants. During the past two years, however, many prominent farmers in the cornbelt have written personal letters, or requested replies through farm papers, for information concerning this method of dealing with tenants. There is no getting away from the fact that grain rent and cash rent, when no restrictions as regards crop rotation and number of animals to be kept on the farm, have proved a curse wherever they have been practiced. In one of the leading livestock publications a writer recently questioned the writer's motives in advocating the partnership plan, and proceeded to show how the tenant could make greater profits by paying cash rent. This may be true for one or two years, but a survey recently made of rented farms in Missouri shows that farms rented on the partnership plan are paying better returns, and gaining in fertility faster, than those rented on a basis of grain or cash rent. These facts are sufficient reply to those who advocate cash or grain rent.

In working out a system of partnership leasing the landowners and tenants, by co-operation, should stock the farm, the landowner to furnish the larger part of the stock, the tenant doing the work, and divide the profits upon an equitable basis. This gives the tenant a better chance, more courage, a permanent interest, more to work with and to work for. It makes him work the year round. He will generally get a better cash return, and accumulate a lot of property and equipment during the time of the lease, besides living better than he could by renting for grain or cash rent and skinning the farm of fertility. The landowner, from his point of view, builds up the fertility of his farm, and has a more valuable property at the end of the time of the lease, than at the beginning.

In discussing the difficulty of maintaining the fertility of the farm through the present system of renting Mr. J.

Brown Hitt, one of the brightest and most capable young men connected with farming in the cornbelt, recently said: "No matter from what angle we view this problem, the fact must be admitted that each succeeding year makes the position of the tenant less secure. On all sides is heard the complaint of the scarcity and the high cost of labor, coupled with the inability to make money by present systems of farming. In our section, Sangamon county, deterioration of crop yields during the past twenty years is conspicuous. Constantly the difficulty in getting land in grass is aggravated, but ever the farmer proceeds to destroy the stand that fortune has created. The two-year clover and timothy crop-system, with cattle and hogs, means the riddance of detail, less teams, wear and tear on machinery, sick and sore-shouldered horses and minimum labor bills. The time is not far distant when every farm owner and tenant will be under the necessity of working out a system of stock farming for their own salvation. Soil ruin means a discontented and unthrifty tenantry. No single system can be devised that will meet all requirements, but in any satisfactory method adopted beef-breeding cattle and grass must have a prominent part. The labor problem will find at least a partial solution in the increased grazing area, with longer resting periods for the tillable lands, and to effect the change the tenant must have the support, financial and moral, of the landowner."

After financing has become a possibility, then the beef producer must learn that breeding and growing animals should be kept to a large extent as a means of utilizing grasses and forage crops; that it is unprofitable to use expensive and concentrated feeds for the production of growth, and that fat which is made at great expense has comparatively little value when placed on a breeding animal that is to be kept in the herd. When fat has been produced in greater quantities than necessary for the health and thrift of breeding stock, it becomes an item of expense for maintenance. The concentrated and expensive feeds should be utilized in fitting the cattle for market, with the exception of relatively small quantities utilized to balance up the home-grown feeds, thus making them more efficient.

In illustrating one of the systems of beef production the writer has in mind, it may, perhaps, be well to discuss the methods of one of the most successful Illinois feeders, who has demonstrated that a well-bred Shorthorn steer, made into beef as quickly as possible, can be made to yield a profit on high-priced land. This farm, at the time the writer visited it, supported a breeding herd of more than 100 cows and their offspring, making about 260 head on the farm at all times. About 250 hogs are raised each year to follow the cattle and help in converting the corn crop into money and manure. Corn, clover, oats and alfalfa are the leading crops. The oat straw and cornstalks go a long ways toward supporting the cows during the winter. Nearly 1,000 loads of manure are saved and hauled on the fields every spring.

The owner has made no attempt to combine milking qualities with beef production, the chief aim being to select bulls from thick-fleshed, early-maturing ancestry. The cows furnish plenty of milk for their calves, dry up quickly when the calves are weaned and go into the winter in good breeding condition. The cows are bred so that they begin dropping their calves along in March, and by the time they begin to get much benefit from the pastures the calves are old enough to make good use of the increased flow of milk. Two breeding bulls are used, and they are allowed to run with the herd alternate days. This keeps them in good condition, and has resulted in more than 92 per cent of the cows bringing calves. Each year a carload of cows is shipped to market along in June, and their places in the herd filled by heifers that have been raised on the farm. If the bull's crop of calves fails to measure up to a fixed standard, he is quickly disposed of. Special attention in selecting the best bred bulls has resulted in the gradual improvement of the cattle in the herd.

The cows and their calves run in bluegrass pastures in the summer. These pastures have never been plowed. If they begin to show signs of deterioration they are promptly renovated by

(Continued on Page 44)

PRESSED HARD

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When people realize the injurious effects of coffee and the better health that a change to Postum can bring, they are usually glad to lend their testimony for the benefit of others.

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"I was so pleased with it that I bought a package to carry home with me, and had wife prepare some for the next meal. The whole family liked it so well that we discontinued coffee and used Postum entirely.

"I had been very anxious concerning my mother's condition, but we noticed that after using Postum for a short time she felt much better, had little trouble with her heart, and no sick stomach; that the headaches were not so frequent, and her general condition much improved. This continued until she was well and hearty.

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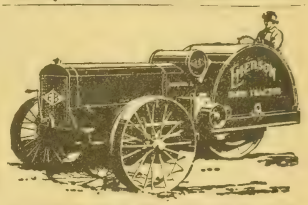

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Which Breed is Best?

Which Makes the Most Consistent Economical Gains and Makes the Most Money For the Farmer?

By J. A. Raiser

IS THERE really a "best" breed of hogs? Has not each one of the various breeds of hogs its admirers, men who will stoutly claim this or that breed, until every one of the many breeds of hogs have been mentioned, to be the "best" breed, and who back all statements to this effect with, what they consider, substantial proof gained by years of experience in the handling of this particular breed? Is the "best" breed of hogs not rather a matter of management, environment and existing conditions, instead of there really being a "best" breed of hogs by the natural order of things?

I should tremble to assert this to be the real truth or basic fact about this matter. Yet again I should fear to stoutly proclaim any one of the many breeds of hogs to be the "best" breed for quickest returns lest I should bring a whirlwind of protests to scatter my opinion to the four winds that blow, and focus it at the one point, the "happy medium," the "crossed breed" as the winning breed.

However I do believe there is sufficient difference in the different breeds of hogs to make it worthy of consideration. There certainly are types of hogs which, when weighed in the balance over and against other types of hogs, are found wanting. A difference which, if not seen offhand, or on the surface, can be plainly seen if you take the trouble to microscope the details.

There are farmers adhering almost exclusively to a certain breed of hogs who invariably bring their hogs to weigh 200 pounds in six months from their birth. Then again there are farmers who, with another breed (a favorite breed also) are seldom able to bring their hogs to weigh more than 150 pounds in that time. In fact they require nine months, and even more, to bring their hogs up to the 200-pound mark.

This may be caused by prevailing conditions or prevailing feeding methods to a certain extent, but it is my opinion that the "nature of the beast," the type of hog which is being fed, has very much to do with it also. Experience bears us out on this.

When one is in love with his work he is inspired to give it his very best attention. Thus it should be in the hog-raising business. Hogs should not have our second, third or indifferent attention, but the first and best attention, if we would make the particular breed under our care to pay us the highest possible dividends.

To start with we want to begin with the hog that is best suited to the general market demand, and what is called the "early-to-market" hog. And which type or breed of hogs will be the most suitable to meet these requirements? This is the question confronting the farmer.

A promising bunch which gives evidence of rapid gains with a corresponding profit

A writer in The Farmer's Guide says that "the hog that is best suited to the general market demands must be wide and short of head, deep of heart and sides, broad of back and not too heavy of bone. The tendency to excessive bone has not always been found conducive to easy feeding and early maturing qualities. He should have a quiet

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disposition, and his general character should indicate an easy feeder. He should be practically fat and ready for market at all times after six months of age, and should be capable of making a weight of 300 pounds at nine months of age."

This expresses my opinion about the matter in better words than I could muster, and so with an apology to the author I have quoted his words. This is not too high a mark to set, and should easily be reached by all feeders who give the hog proper attention.

If conditions are right the first part of the hog's life is the period of rapid growth. The possibility of early-to-market, and consequent greatest gain and financial returns, depends entirely upon the rapid growth and hastening to maturity the hog assumes in this period. A laggard in the hog-lot is an unprofitable hog. You feed it at a loss. The puny runt or scrub of your herd will consume as much feed as a purebred, but the feed fails to produce the flesh and fat so essential to profit for the owner. Again, which breed is best to eliminate unprofitableness from the herd?

The three prime essentials in the hog business are good animals, good feed and good care. If there is a dearth in any one of these, in however perfect form the others may appear, a full measure of success is impossible. A "triple alliance" absolutely necessary to success. Conformation, constitution and character are also essentials that are found in most perfect form in purebred or high-grade animals. Such have a greater power to convert a large part of the feed consumed into carcass than the scrub which allows much of the feed consumed to pass out of the system as waste matter.

I am inclined to think that the Poland China and Chester White are the most universal favorite breeds of hogs for breeding purposes, because they are prolific, grow very fast and mature early. Yet there are other breeds which may be equally as good.

Many swine breeders experience good results from cross breeding. In fact a better feeding animal is more frequently secured by cross breeding, for which purpose the Chester White,, Poland China or Duroc-Jersey, crossed whichever way you wish are excellent. Chester White, Duroc-Jersey and large Yorkshire sows are prolific breeders and excellent mothers, and when bred to a thoroughbred Poland China boar should produce a progeny both suitable to the general market demands and to the farmer as the most profitable type of hogs for quickest gains.

The hog raisers of Kansas Station some time ago made a test to show which kind of a hog grows the best meat. Thinking it might be of interest to the readers of this paper I give the results of the test. The weights of hams in the test were as follows:

Berkshire hams, 23½ pounds; Duroc-Jersey, 24½ pounds; Poland China, 25½ pounds. These hogs in sizes were as near the same weight as possible to get them. The shoulders of the Berkshires, 21½ pounds; Duroc-Jersey, 19½ pounds, and Poland China, 19½ pounds.

It is said that the butcher who saw the hogs slaughtered thought the Duroc-Jersey had the most fat on the back, the Poland China the next, then the Berkshire. The Berkshire showed more lean and less fat than the Poland China.

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Enter the FAMILY Picturegame that has been advertised so extensively in FARM NEWS, and do it today. The First Prize is $1,500.00 Cash. Some one will get it, and get it easily. Why not you? Don't let this chance slip by. Send $1 today for a four-year subscription to FARM NEWS and a one-year subscription to The FAMILY Magazine, **a set of 60 pictures, a book of titles from** which to make your selection of names for the pictures, and a reply book in which to write your answers. Then you have everything you need to play the game and win. See Page 43.

I'll Send You This Big Can of CORONA WOOL FAT POST PAID

If you own one or more horses and cows, mail me the coupon below, or even a post card, and I will send you this big can of **Corona Wool Fat on 20 Days' Free Trial,** with full directions how to use it. I want to show you what a wonderful healing preparation **Corona Wool Fat** is. I want to prove to you—on your horses and cows—how quickly and surely it will Heal and Cure before you pay me one penny.

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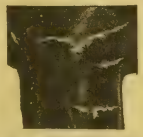

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C. G. PHILLIPS, Manager (9)

THE CORONA MFG. CO. 14 Corona Block KENTON, OHIO

20 Days' Free Trial COUPON

CORONA MFG. CO. 14 Corona Block, KENTON, OHIO

Gentlemen—Send me a trial can of Corona Wool Fat. I will use it for 20 days and if it does what you claim, I will pay you 50c for it. If it does not do so I will notify you and hold it for you to dispose of as you direct.

Mention ailment you intend to use it on .....

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Practical Concrete Construction

Showing Correct Proportions, Methods of Mixing and Some Directions for Concrete Steps

DURING the course of an illustrated lecture relating to concrete construction on the farm, the speaker, who had traveled throughout all the important agricultural districts east of the Mississippi taking notes and photographs of various examples of concrete construction on hundreds of farms, was asked what proportion of farm work of this character resulted in failure. He replied that failures were exceedingly few, and that if farmers were instructed as to the use of proper aggregates, failures would become practically unknown.

The following brief instructions concerning the essentials of good concrete have been prepared for the information of farmers, who will find them convenient as reference data. If strictly observed they will insure satisfactory results.

AGGREGATES TO BE USED IN CONCRETE CONSTRUCTION

The sand, stone, and gravel usually found upon the farms of the United States are generally suitable for concrete construction, provided the following precautions are taken:

1. These aggregates must be free from vegetable matter, dirt, or other foreign substances.

2. When using bank-run gravel, the sand must be separated from the stone or pebbles by screening through a ¼-inch screen.

3. In small concrete structures, such as drain tile, fence posts, etc., the coarse aggregate (crushed rock or gravel) should range in size from ½-inch to ¼-inch. For larger work, such as silos, barn floors, ordinary foundations, etc., coarse aggregate should range from 1½ inches to ¼-inch.

4. The sand used should be coarse, hard, and clean, and graded from ¼-inch to fine, with the larger size predominating. Use great care in hand mixing. It is economical to buy a small machine mixer if the farmer intends to use concrete in large quantities.

HAND MIXING

Proper methods when concrete is mixed by hand, using a two-bag batch of 1:2:4 proportions, are as follows:

1. Size of measuring box for sand should be 2 feet square by 1 foot high, thus containing 4 cubic feet.

2. Load sand in wheelbarrows and wheel onto mixing board.

3. Fill sand-measuring box, lift box, and spread sand 4 inches thick over board.

4. Take two bags of cement, place contents as evenly as possible over sand.

5. Turn the sand and cement over until thoroly mixed, so that no streaks of cement or sand appear.

6. Spread the mixture of sand and cement out carefully, place measuring box beside it, and fill twice with stone or gravel, then empty onto sand and cement mixture and mix thoroly.

7. Add three-quarters of required amount of water slowly and evenly, at same time mixing the mass.

8. Continue mixing, adding balance of water when dry spots appear, until the whole mass has been turned over three or four times. This should be sufficient. After final turning shovel into compact mass ready for wheeling to place.

SIMPLE CONCRETE STEP CONSTRUCTION

Steps are not only subject to hard usage, but when constructed of wood with the lower part in contact with the ground and subject to alternate wetting and drying, decay is very rapid, making them unsafe and dangerous. Steps at the rear or kitchen entrance of the house encounter especially hard usage, but it is a very easy matter to have them durable and safe by constructing them of concrete.

QUANTITIES OF MATERIAL FOR ONE CUBIC YARD OF RAMMED CONCRETE

(Table from Taylor and Thompson, "Reinforced Concrete.")

Proportions by Parts			Percentage of Voids in Broken Stone or Gravel								
			50 Per Cent.*			45 Per Cent.†			40 Per Cent ‡		
Cement	Sand	Stone	Cement, Bbls.	Sand, Cu. yd.	Stone, Cu. yd.	Cement, Bbls.	Sand, Cu. yd.	Stone, Cu. yd.	Cement, Bbls.	Sand, Cu. yd.	Stone, Cu. yd.
1	..	2	3.57	..	1.06	3.37	..	1.00	3.20	..	0.95
1	..	3	..	..	..	2.60	..	1.16	2.45	..	1.09
1	2	3	1.81	0.54	0.80	1.71	0.52	0.77	1.67	0.50	0.74
1	2	4	1.58	0.47	0.94	1.51	0.45	0.89	1.44	0.43	0.85
1	2½	5	1.31	0.48	0.97	1.24	0.46	0.92	1.18	0.44	0.87

* Use 50 per cent. columns for broken stone screened to uniform size.

† Use 45 per cent. columns for average conditions and for broken stone with dust screened out.

‡ Use 40 per cent. columns for gravel or mixed stone and gravel.

The three forms consist merely of that many boxes open at the top and bottom and also at the end adjoining the door sill.

A rise of 8 inches and a tread of 10 inches will be found convenient. For this reason the height of each box should be 8 inches, since every box will form a step. All of the boxes should be of the same width, but each one is 10 inches shorter than the one beneath it, thus forming the tread of the step. If the steps are few in number and not too wide, 1-inch boards will be stiff enough to hold the concrete without bulging, but if there is any doubt about this it is better to use 2-inch plank. The concrete for the steps should be mixed in the proportion of 1 bag of Portland cement to 2½ cubic feet of clean coarse sand to 4 cubic feet of crushed rock or pebbles. The earth beneath the steps should be excavated to a depth of 6 inches below the surface, the excavation being the exact size of the bottom of the steps. Make sure that the earth is level and compact at the bottom of the excavation. Place the largest box in position around the edge of the excavation, staking it in place at two or three points to prevent shifting. Level the first box very carefully by means of a carpenter's spirit level. The concrete, mixed rather dry, should be deposited in the box and thoroughly tamped and compacted until moisture rises to the surface. Work or spade the concrete thoroughly along the sides of the forms so as to produce a smooth surface. At the front end of the box, where the concrete becomes the tread, the surface of the concrete is carefully leveled off and smoothed with a trowel for a distance of about twelve inches from the outer edge. Immediately after this is done the second and smaller box is placed on top of the first one, being fastened thereto by a few nails through the upright cleats shown in the drawing. The nails must not be so long as to project through the forms and into the concrete. Fill the second box with concrete immediately, being careful that no dirt or other foreign matter falls or collects on the surface of the first batch of concrete, as this would prevent a good bond between layers.

The brace between the two back cleats is for the purpose of preventing the boards from spreading at the side next to the wall. The outer surface of the top step is carefully leveled off with a straight-edge and finished by troweling to a smooth surface. Excessive troweling, however, must be avoided. Not more than a half hour should elapse between placing the concrete for each step so that the concrete first deposited will not harden and set up before the next form is filled. After the steps are about one week old, the forms may be removed and the steps used. After the forms are removed any roughness or irregularities may be smoothed down and the surface of the entire steps finally finished by rubbing with an old piece of emery wheel and water or carborundum and water. Where the work includes many steps, a hollow space is generally left under the main body of the steps to effect a saving in materials. Where this is done the platform and steps are reinforced with steel rods or heavy wire mesh to prevent cracking.

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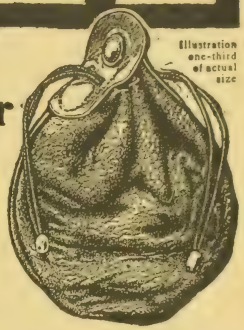

Illustration one-third of actual size

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Description of Patterns Shown Above

7591—**Ladies' Waist**—Sizes 34 to 44 inches bust measure. Closing in the center of the front, leaving the neck exposed. It is trimmed with a high, flaring collar at the back and with large revers at the front.

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7592—**Misses' Dress**—Sizes 14 to 20 years. The dress closes at the front and has a three gored skirt with a flounce. Long or short sleeves may be used.

7627—**Children's Dress**—Sizes 2, 4, 6 and 8 years. The dress may be made with or with out the box plait at the front and the sleeves may be long or short.

7628—**Ladies' Dressing Sacque**—Cut in one size. The sacque is cut in one piece and has small revers at the neck in both front and back.

7619—**Ladies' Apron**—Sizes 34 to 44 inches bust measure. This apron is almost a dress. It has a small waist which fastens in the front and which has sleeves extending to the neck edge. The skirt portion is perfectly plain and is cut in four gores.

7602—**Ladies' Skirt**—Sizes 22 to 34 inches waist measure. This practical skirt has four gores, plain at the top and flaring somewhat at the lower edge.

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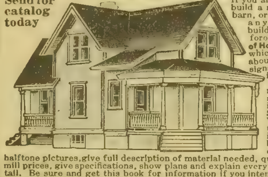

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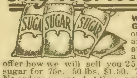

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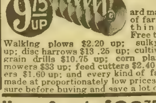

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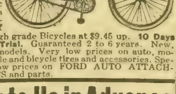

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In the Dairy

By John Underwood

STUDYING THE UDDER

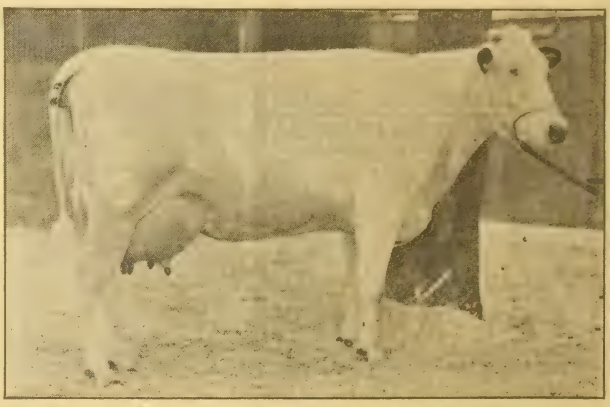
Nothing so adds to the value of a dairy cow as a capacious, well-placed udder. Either at a sale or in a show ring the udder seems to be the one point on which the final decision is based. It appears to be the one thing that indicates whether or not a cow will be a revenue producer or a nonsupporter. The udder is therefore a very great essential to the dairy cow.

Length and width of the udder are of greater importance than depth. We get the length desired in an udder that is attached high behind and runs well forward on the belly. Width is determined by the conformation of the thighs. The inside of the thighs should curve outward, forming a well-defined arch that begins high, has its widest part at the top, and inside of which the udder hangs free and easy.

In order to be well-quartered, each teat should yield the same quantity of milk, which calls for a uniform development in each of the four parts of the udder. If the teats are altogether too small and too short, that is an aggravating fault in a dairy cow. Another very objectionable form is what is termed a tilted udder, too much being projected between the thighs. Fully two-thirds of the milk is made in the hind quarters, and if the front quarters were similarly developed a corresponding capacity would be added and greater milk production would result.

This abnormal projection of udder between the thighs also becomes dirty from the droppings of the cow, which is a very serious and objectionable feature. Some udders hang low, and pick up much of the filth with which they come in contact. A cow with such an udder as this is most disagreeable to milk, and is a sure indication of a poor producer. A common defect, too, is badly shaped teats, of a fleshy nature, hard to grasp, and the cow is decidedly tiresome to milk.

While a large udder is sought for, it is not always an assurance of heavy milking ability. A large udder may be fleshy and firm in texture, and consequently would not surpass in production a small udder, whose tissue was of greater quality. This quality is important, and it is one point upon which a dry cow might be judged for milk production. The udder should be soft, light, and spongy to the touch. The skin should be soft and elastic, and covered with fine silky hair. After milking the covering should fall into many loose, soft and oily folds.



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HANDLING THE HEIFER

It is always well to handle heifers and accustom them to being led around or tied up while they are still young—that is before they are bred. Otherwise there is always the risk that they may become unmanageable, and very hard to deal with at calving time. But if previously well trained, and carefully handled, this difficulty will seldom or never arise.

Many ill-natured or defective habits may be traced to omissions or abuses when the cow was in her heifer stage, and more particularly at the time of bringing her first calf. Calving time is a turning point with many heifers, as they either become docile or vicious. Both types are to be found in all herds, and the former benefit by consistent attentions and are lovable and thrifty. Many heifers are never handled from their calfhood until they are about to calve, or have actually accomplished it. They are not actually wild, but they are far from being tame, and the bringing up of the first calf uncivilizes many. Some are so timid as to become permanently so, while others acquire kicking and resentful habits that cling to them all their days, and cause them to be a source of annoyance to the other members of the herd.

If the training of the heifer does not commence when quite young, she should always be taken in hand two or three weeks before calving. As she becomes heavy with calf she has a tendency to be docile, but that is not enough. She should be handled and fondled daily. Let her be brought into the barn and tied up like the other cows. Give her a general rubdown, and rub the udder gently as it distends. When she comes to calf I do not say she will be as agreeable as an old cow, but her objections will be only temporary, and the calf will not be two days old before she is as quiet and tractable as she was previous to calving. The one who handles the heifer must not be haphazard, for a soothing hand, a kindly word are very necessary. A rough hand should never touch her until her good habits are clinched, nor after that if it can possibly be helped. Many heifers with their first calves begin to milk very well and suddenly decrease in a short time. Few, if any, of these are the trained heifers.

All great milking cows are quiet animals. They stand chewing the cud from first to last, and absolutely enjoy the giving of milk. But the nervous animal is unsettled and uncertain. Heifers that are never touched until they calve are all troublesome, some terribly so. They often tremble with fear of the person who attends them, or become ill-natured and obstinate. They will hardly recognize their own offspring, they will hardly allow anybody to milk them, and the calf has often to struggle to meet its wants. Then the udders are sure to go wrong and become swollen, hard, inflamed, etc., which is all very much against establishing a good udder and a fine milker. Even if the calf is put to suck the heifer from the first, there will still be the objections to the human hands. Indeed the more the calf sucks the less amenable the heifer becomes to having her milk removed, and the submission has all been brought about when she is in milk, a time with many more risks than previous to calving.

Big returns cannot be expected from the heifer with her first calf, but they vary astonishingly in accordance with age and breeding. Heifers should never give less than half the quantity of milk yielded by a first-class cow. No cow is very profitable in the herd unless she gives from 700 to 800 gallons a year, and I would not count on a heifer as qualified that does not come up to 350 or 400 gallons. I would hesitate to put a heifer to the bull again that gave less than 300 gallons. Still I am never ready to condemn a heifer after her first calf, unless sufficient reasons exist for doing so. Many a one milks badly on her first trial, but picks up surprisingly with the second, and it is then that her full value can be thoroly and correctly estimated. A heifer that does not give

(Continued on Page 30)

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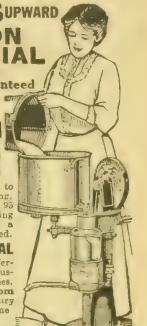

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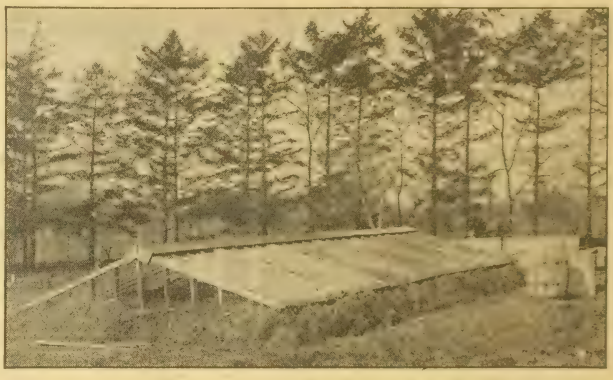
The Home Garden

An Interesting Story of Preparation For the Acre Lot Which Means so Much to the Family

By George B. Crane

THE home garden lies close to every farmer's heart. Almost unconsciously he reveres it. He knows that the careful cultivation means numerous delicious vegetable dinners in summer, and a well-filled cupboard for the following winter. Why is it that we put a little heavier coat of manure on the spot on our farms that we plan for the garden? Surely we do not fence off that sacred acre a little more stylishly and securely for the fun of trying out new types of fence. What part of the farm is it that Mother keeps tab on, often reminding us if it isn't about time to get it into shape for planting? It's the farm garden.

Knowing what a good garden means to the family, I like to think of it as a place where I can add more fertility, do more experimenting, cultivate more thoroly than some of the bigger fields on the farm. If so much of the year's living is coming from the garden, I am willing to expend myself more than usual to make it a success. If I am to get so much pleasure out of it, it's up to me to see that it grows luxuriantly. Therefore I plan it with great care.



A small hotbed insures an early start with garden work

Following the last crop taken from the garden in the fall, I clean the ground off carefully, removing all sticks, stems and rubbish that I know will interfere with cultivating the following year. Any grass or plant tops, or other waste from the summer before, which has been piled in the corner of the garden, is then distributed over the soil to help furnish humus. I usually apply eight or ten tons of manure per acre throughout the winter as convenient. Part of this I try to get on just previous to plowing it in the spring. Any additional plantfood in the way of fertilizers I usually add when planting, or to the growing plants where possible. Of course, not all garden plants yield themselves to direct fertilization, but those really needing the added plantfood do, such as tomatoes, sweet corn and potatoes. I am rather particular about the time of plowing in the spring, going not by the signs of the moon, but plowing at a time when the ground will turn mellow and crumbly. The date when this condition will be reached depends upon the weather. I like to plow as early as possible.

With the plantfood question out of my mind, I start early to figure just what I will plant and where I will plant it. We usually plant pretty much the same things, but I find pleasure in figuring out where each will go this year, because it pays to rotate. I wonder if I can raise more on that little space of ground than I did last year. Peculiar, too, at the end of the season I usually figure that I have.

In order to plan advantageously, I jot down what I raised last year. Then I take my seed catalogs and garden bulletins and go over them thoroly. What a tingle of pleasure in the evening of the first warm bright day in the late winter to sit down and renew my acquaintance with my favorite pastime —gardening. My imagination roams. I begin to believe that I will have a garden greater than the garden of Eden. The tomatoes will be redder; the cucumbers will be perfect, long slender green ones; the pole beans will fairly break down the vines; and the sweet corn—I can see the first yellow, steaming ears as they are served on the table along about the first rare days of June.

Turning the pages I start down the long line of special varieties of beans. Which is the best? Shall I plant the same varieties as last year? Which will require the greatest care? Stringless beans, yellow beans, bush beans, green beans, pole beans, large beans, small beans. Pictures bewilder me. Descriptions confuse me. Finally, how-

ever, I discover a small yellow bush bean which I decide I will try this spring. I turn down the corner of the page, as I have twenty other pages.

Presently, as I glance over the last page, I suddenly realize that it is time to come down to earth. Almost unknowingly I have gathered many new ideas for the coming season. I proceed with enthusiasm.

Each year I draw a plan of my garden, roughly sketching where each crop will be put. In this plan I simply try to include everything that I want, and I give a larger space to the more important crops, such as potatoes. The fact that the smaller beds of early lettuce, onions and radishes should be handy and near the garden gate is recognized. I do not think it necessary to mark off on this paper plan the exact number of feet I propose for each flower or vegetable, but I do like to have something definite in my mind to start with on the first planting days. It saves time when time is most valuable—during the planting season.

In making this plan the lady of the house is always consulted, because I know she has a bigger interest in the garden than I. Her suggestions are given great consideration. I realize that this garden will be the storehouse from which her cupboard is replenished for a twelvemonth. She knows what we need most and what the family likes. Her suggestions as to changes are taken without question. Her final approval is like the great state seal.

With my plans this far along, I await the first workable days with great anticipation. I go to my workshed to take an invoice of my garden tools. It doesn't seem possible that half a year or more has passed since they were put away. If any need repairing or sharpening, I set them aside, so that my attention will be called to them when I have an opportunity to fix them. I am glad that they will soon be in use.

CONTROLLING THE CABBAGE MAGGOT

A cabbage pest that is particularly destructive to early cabbage is the cabbage maggot, but it does not, to the same extent, attack the late main crop. When the plants seem to be making a good growth they suddenly begin to wilt and die. Examination of the roots will disclose the small white maggots eating out the vitality of the plants. The parent of the pest is a fly, having much the appearance of the common house fly, but being considerably smaller. Eggs are deposited on the cabbage stems and in cracks in the earth close at hand.

In order to keep the pests in check, all old stems and leaves of cabbage should be destroyed each year. Such things form ideal hiding places for the insects to remain in during the winter. All such material should be carefully raked up and burned in the fall and winter.

Coming to the matter of repelling the insects, various mixtures have been used with different degrees of success. The maggots cannot be poisoned, therefore the only way to fight them is to keep them from going into the ground to eat upon the root, or to provide something that will keep the parent fly from depositing her eggs. The latter is not readily practicable for the average grower. To keep the maggots from entering the ground seems more possible.

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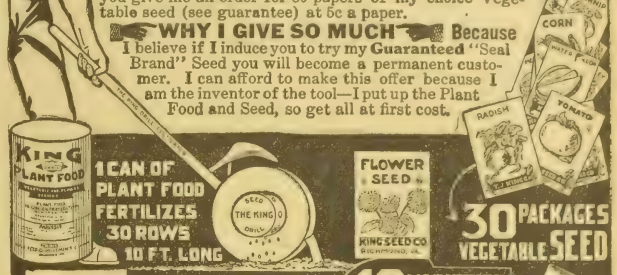

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Slake lime to a thin creamy consistency, and add one quart of the cream to a gallon of water, also a tablespoonful of crude carbolic acid. Apply this to the soil about the plants, using a watering-can with the sprinkler removed. This forms crust on the surface of the soil which the maggots are unable to penetrate. Some use carbon bisulphide, making a hole in the ground about six inches from the plant, and injecting it into the soil. The fumes permeate the soil and kill the maggots. Perhaps the most successful treatment is a strongly-fertilized soil which will help the plants to overcome the attacks.

PREPARING A ROSE GARDEN

The tea roses, hybrid teas and hybrid perpetuals are among the most delightful of flowers, yet the fact that many consider them hard to grow with success makes them rather uncommon in the home gardens. The following method is employed by a successful rose grower: Select a sheltered sunny location with buildings or windbreaks on the north and west sides. Make an excavation two or three feet deep the size of the bed desired. If the soil is of a heavy nature and poorly drained it is well to dig down to three feet, and put in broken stone, coarse gravel, or some other material to help with the drainage. This should be eight or ten inches thick, on top of which should be placed a layer of sods, grass side down. Next several inches of coarse manure should be put in, and rich soil used to fill the excavation to within five inches of the surface. Poorer soil is better for the top layer, and the bed should be built up four or five inches to allow for settling. The object of poorer soil at the top is to induce deep root growth. This means more and better flowers.

When the soil is of a sandy nature, and the subsoil one that admits of good drainage, the layer of broken stone may be omitted, and it will not be necessary to dig to a depth of more than two feet. Beds for the roses may be prepared at any time of the year, but late fall to early spring is best. In sections of the country where snow and frozen grounds do not prevent, the work may be done at any time during the winter. The work of setting the roses should be done in early spring. Hybrid perpetual roses should be set two feet apart, while the teas will do well if set not more than eighteen inches.

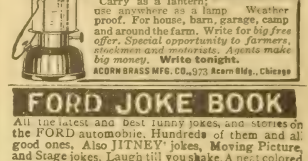
PROPAGATING PLANTS FROM SLIPS

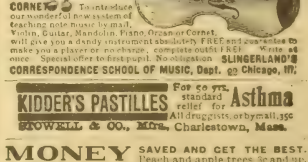
The geranium is one of the most popular of bedding flowers, and a supply of thrifty young plants for the lawn beds may be easily propagated. We take the slip in February or March and set them in earth in small pots or ordinary tin cans. They take root easily if the soil is kept wet. On a shelf near the kitchen stove is a good place to keep the pots until they have taken root, when they may be removed to a sunny window. Plants propagated in this way will be about ready to bloom when they are put in the ground the first of June. Geraniums with bright red flowers make the most attractive bedding plants.

Heliotropes and the choice double petunias are rooted in this way, but they require a little more care. We have also rooted the fuchsia, and many other house plants from cuttings. In taking a slip, select a thrifty young branch or sprout rather than an old branch, as it will root more readily.

THE HOME PLANTS IN WINTER

It is generally understood that a room may be kept too cold at times for the





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house plants. It is equally true that it may become too warm. The usual reason why plants do not thrive in the living-room is because the difference between the extremes of temperature is too great. During the day the heat becomes too high, and at night the mercury runs too low. Plants that are not subjected to extreme heat during the day will withstand a lower temperature at night without injury. If the house in which the plants are kept lacks furnace heat, a tight stove should be placed in the room and a fire kept burning all night.

Double windows also keep out the cold air. Drafts frequently prove fatal to the more tender plants, and when they do not die outright, they are dwarfed and retarded in growth. On windy nights it is well to put several thicknesses of newspaper between the plants and the window. This wards off any stray drafts of cold air that may creep in.

In the house heated by a hot-air furnace, the air will be too dry for the plants unless some way of providing moisture is adopted. A pan of water set on the register at night will help to do this. Frequent spraying of the plants will also help to overcome the dryness. Hyacinths and other bulbs need a lot of moisture at blooming time. The plant that lacks moisture is subject to the ravages of plant lice, white fly and red spider. Moisture helps to keep these insects from becoming numerous. Steam or hot water heat is best for house plants.

CURIOUS PLANTS FOR THE WINDOW

Two or three common carrots, such as are raised in the vegetable garden, may be set in a deep pot and placed in a sunny window if a dainty foliage plant is desired. Treated in this way the fern-like leaves soon appear and make a large growth.

Bulbs and roots of wild plants taken from the woods make pretty window plants. After the roots are taken up they must be allowed to freeze, and remain in that condition for a week or two. If they are then placed in a sunny room they will soon send up their leaves and flowers. Jack-in-the-pulpit, trillium, dog's-tooth violet, and a dozen other wild flowers of spring may be forced into bloom in this way.

Take up a square of turf containing roots of the common field daisy, allow it to freeze, and place it in a window box. The plants will soon begin to grow, and flowers should appear in five or six weeks.

EUROPEAN WAR BEING FOUGHT WITH POTATOES

The European War is being fought with potatoes. Chief is the "spud" among the rations of every army engaged. The Russian Cossack, the German Hussar, the French Musketeer, the English Tommy, all get potatoes for breakfast, dinner and supper, whenever they have time to eat meals three times a day. Pictures of men fighting in the trenches show the popularity of the "Irish vegetable," served in soup, baked, boiled, fried and in a dozen other serving ways, including raw. The potato is the largest crop grown in Germany, and since the beginning of the war, the efforts thruout the empire have been directed toward increasing the acreage and the yield per acre, in order to meet the needs of a greater food supply.

~o~

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Our Cash-Prize Poultry Contest

Facts Gleaned From Experience of Farm News Poultry-Raisers

The First Prize, $5.00 in Cash, was awarded this month to Mrs. Ida M. Shepler, of Indiana. The Second Prize, $3.00 in Cash, was awarded to Mrs. C. Nobles, of Georgia. The same Cash Prize offers for contributions to this department will be given next month. Remember, we will give $5.00 in Cash for what we consider the best contribution on the general subject of Poultry and Poultry-Raising, marketing, treatment of diseases, best methods of raising chicks, getting eggs, or any other phase of the Poultry business. For the next best we will give $3.00 in Cash, and $1.00 for each other contribution used.

MY OPINION OF INCUBATORS

By Ida M. Shepler, Indiana

Almost any one of us who has ever taken an interest in incubators and the incubator-hatched chicks, knows that there are dozens, it may be, of good incubators on the market, and yet for every twenty-five or thirty good incubators there is not more than one person in that many who owns an incubator.

It is now over a dozen years since I saw my first big incubator hatch, and I said then, "Anything that can hatch such a perfect bunch of lively chicks as that is something that is going to make the poultry business worth while."

"Ah, yes," said a woman near by, "wait two weeks, and see how many are alive by that time. The incubator does something to them."

"The incubator does nothing to them," I declared. "It is true, your careless handling of the incubator might make it do something, but it has done nothing to these chicks. They are as perfect as if they had come from under the old hen."

I knew even then that it is what you do to them after you get them in the brooder. You crowd them in, too many together, and overheat them, or let them overeat, and soon they begin to die as people once died who were crowded together on ships, of ship fever. In every bunch of chicks there is very likely to be one or two infected with the white diarrhea, yet you simply let these two stay in until they infect the whole lot. The incubator had nothing to do with that part of the trouble. Its duty was done and over. The rest was up to you.

Since at the Connecticut Agricultural Station they discovered how to test poultry for the germs that enter the eggs and hatch with the chicks, it was found that few and scarce are the flocks that do not show at least three or four hens with these germs in their bodies. Such hens do not lay many eggs, but those they do lay are nearly sure to get into the incubator, and this is why every chick that is droopy at the beginning should come out and never go back. Follow this rule with the incubator chicks; don't crowd too many together, learn how to feed, and keep the right amount of heat and air, and, as I found shortly after I began having incubators of my own, you have added a good part to the good part the incubator did for you.

The first year I began with an incubator I had several failures due to the incubator not being adjusted right. The next year, with an incubator that came ready to do its work, my chickens accumulated so fast and early, from both hens and incubator, that I had to shut off hatching for lack of room. I often wonder when I go on farms and see only a paltry flock of hens, and no more chickens than some people raise in town in a limited backyard, what a missed opportunity. Here is feed of all kinds for the farmer's wife to have for nothing. Here is room for brooding coops, colony houses, and space to spare. If I had these women's chances at cheap feed and room, with one incubator alone and the hens, I could raise a thousand chicks every year easily.

SPECIALIZING IN EGGS

By Mrs. C. Nobles, Georgia.

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70 VAR. Chickens and Dogs. Stock and Hatching Eggs. Collies a specialty. Large dest. Catalog Free. EDWIN A. SOUDER, Box F, Telford, Pa.

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farm. We begun by purchasing in the dull season twenty purebred White Leghorns and three cocks of the same breed. Choice birds can be had at very reasonable prices in May and June, when the season is dull.

To house these birds we had an open-front building made of undressed lumber. No cracks were left to permit drafts and no holes thru which water could leak. Time has shown that we did not make a mistake in the the building of our henhouse. It is easily cleaned and allows free ventilation, which is all that is necessary in a henhouse.

From this small flock we saved one hundred choice pullets. We used hens of sitting breeds for hatching our eggs. It meant a saving in time, money and work.

When the little chicks are forty-eight hours old we give them their first feed of hard-boiled eggs and cracked rice. After they are three days old we begin feeding commercial scratch feed and a dry mash in which there is some ground bone or meat-scraps. Fresh, clean water is kept always before them, as is also the green oat patch.

By this method of feeding, and taking care that their premises are always clean, my chicks grow off very fast. Sickness among them is also reduced to a minimum. Of course, growing chicks should never be subjected to the wind and rain. If young, a cold wind will work havoc in a flock.

All thru spring and summer I am kept busy trying to keep my flock from their arch-enemy, the mite. As a consequence of such vigilance, I have little trouble from the mite.

At six months of age, in October, they begin to lay. From then on I always gather from seven to eight dozen eggs a day. This from a flock of one hundred hens.

IMPORTANCE OF SELECTION OF BREEDERS

By Mrs. Lulu Wassell, Illinois.

This is the month in which the incubator should be in demand that the chicks may be hatched at least by the early days of March and April. The little fluffy balls may take much care during these early spring days, but if rightly cared for they will pay you well next fall and winter.

To expect good hatches the breeding hens should be selected with care as to good blood, being chosen from among the earliest matured, most vigorous of yearlings of proven quality, which should be aided by every essential material of food for the high standard of vitality.

If all this is faithfully attended to, and a good incubator selected and handled correctly, there will be little trouble with infertile eggs, chicks dead in the shell, and weak, crippled chicks.

The foods for the breeding hens, for the purpose of getting eggs high in fertility, consist of pure wholesome grains, wheat probably being the most popular. Do not use screenings of an inferior quality. Bran is also good for a wet mash, to be fed in the morning with a dash of pepper and a little salt to taste, mixed with boiling water or scalded milk to a crumbly, not sloppy, consistency. It is well to use a good reliable poultry food or panacea, also some meat food or green bone must be added to the daily ration.

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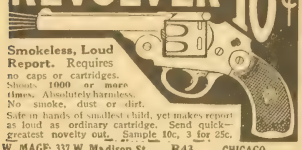

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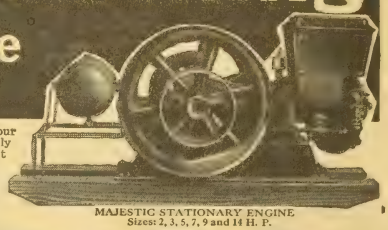

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In the Dairy

(Continued from Page 23)

500 gallons of milk a year with her second calf will probably never get beyond a moderate cow, which kind is not the good money-maker.

INTENSIVE DAIRYING

In almost every section of the country dairying is increasing very rapidly, largely because it is recognized as one of the most profitable branches of farming, and also because it is one of the most valuable forms of agriculture where the preservation of soil fertility is concerned.

As a rule, great increase in production interferes more or less with prices received, but this does not appear to be true of the dairy industry, for today dairy products are found to rule higher in price than ever before. The dairy cow fits admirably in diversified and intensive farming, where a man strives to produce the greatest income from a small acreage, and yet retain the fertility of his farm. By resorting to the silo and soiling crops, tilling the farm intensely, and purchasing some concentrated nitrogenous foods, such as bran and oilmeal, it is not out of the question to keep one cow to each acre.

By following the more intensive system of dairy farming, both capital and labor are saved, and as good results can be obtained as with an extra large acreage. I know from much experience in dairying that a dairy farm will increase rather than decrease in fertility. The success of a dairy farm depends, of course, upon the man and his capabilities. The successful dairyman is not only a farmer and breeder, but, in the true sense of the word, he is a business man from the commercial standpoint, and a producer from the manufacturers' standpoint.

He breeds, feeds and selects his cows, each upon its individual merits, for the purpose of converting the raw materials grown on the farm into a finished product—milk and butterfat. The success of the manufacturer of shoes is determined by his ability to turn out a large number of shoes of good quality, such as will demand a good price on the market at a low cost of production. The efficiency of the machines he operates in his plant, and the manner in which they are operated, have much to do with the number of shoes and their quality that he can make in a given time. Any manufacturer who keeps in his factory old wornout machines, wasteful machines, those limited in capacity, requiring a waste of labor, or those that turn out a commodity not appreciated nor demanded by the buying public, cannot expect to compete successfully and earn large profits in competition with the manufacturer who builds a good plant and equips it with the most efficient machines, and those with a large capacity for converting a maximum amount of raw material into a fine article of commerce, with a minimum of labor and waste. And this is equally true of a producer of milk and butterfat.

QUALITY COUNTS

The price of the commodity produced by the dairyman is determined by its quality. Quality in turn is deter-

mined by richness, color and cleanliness. Not only is the quality and price important, but also the quantity produced and the cost of production. Many cows yield milk extremely rich in quality, or butterfat, but give such a small amount of milk that they do not pay for more than the food consumed. Others produce a comparatively large quantity of milk, but it is so low in its butterfat content that they are not profitable.

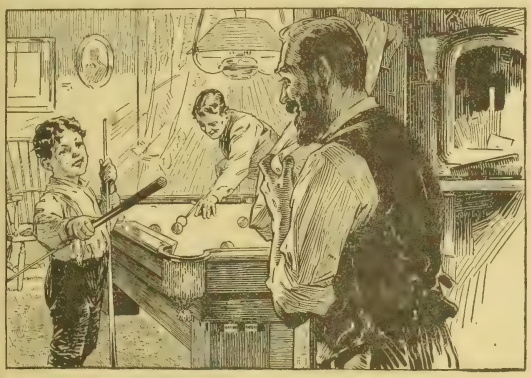
The profitable butterfat machine then may readily be summed up as one that has the ability and capacity to produce from a minimum food supply a maximum amount of milk rich in butterfat. In this connection it is well to bear in mind that from a butterfat-producing standpoint, two cows consuming the same amount of food, and requiring the same attention are equal, even though one yields 10,000 pounds of milk testing three per cent and the other 6,000 pounds testing five per cent although the former has the advantage in that she furnishes more skimmilk as a by-product.

STICK TO ONE BREED

There are such pronounced advantages of sticking to one breed, that people of any dairy community should try to settle on one that suits the majority best, and all should abide by the decision. By this arrangement a bull can be shifted from herd to herd, until he has gone the rounds or is worn out, provided, of course, that he proves his worth as a breeder. This means that the community can buy a much better bull when several herds can use him than when only one will have to bear the entire expense.

It is also a great advantage to have but one breed, if breeding stock is sold. A number of dairymen or farmers can get together and make a sale when one man wouldn't have enough stuff. Then when they are sold they can go out in carload lots instead of detached bunches that make shipping as breeders expensive.

A man may be selling milk on a market that does not demand a high per cent of butter-fat, and that will not pay for this. Then it would be folly for a farmer to sell 4½ or 5 per cent Jersey milk, when 3½ per cent milk would sell as readily. He should get enough Holsteins to run the per cent of butterfat below four. It would pay him to do so.



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Mrs. Patzer's Specialized Effort

She Specialized in Butter and Garden Produce, and Her Products Top the Market

By Lilly M. Johnson

GOOD country butter is longed for with a great longing by city people. And the city woman clings with desperation to the country housewife who furnishes rolls of cream churned into lusciousness. For that reason when Mrs. Phillippi told me she could no longer furnish the butter my husband and I so enjoyed and bragged about to less fortunate city folk, I wailed.

Mrs. Phillipi told me she could wholeheartedly recommend Mrs. Theodore Patzer's butter and other produce. I was also told I must be at her Central Market, Columbus, Ohio, market-stand before eight a. m., Thursdays, if I would stand a chance of securing even one pound.

"What is butter worth?" I asked the following Thursday.

"Forty cents a pound. But I fear I cannot let you have any."

"But I will take both pounds. There are two pounds are there not?" I urged.

"It is a two-pound roll, but I cannot let you have it until after eight o'clock. It belongs to a regular customer until that time. I hold whatever may have been ordered until then. If the customer comes later she runs the risk of being disappointed as eight is the time limit for holding. If you care to wait——" and Mrs. Patzer continued packing, preparatory to leaving when eight o'clock came.

I waited. Others sought to buy the roll, but were told I was to get it if—The customer did not come. Somewhat later I was enrolled as a regular customer.

Gradually I became acquainted with her other customers, country-side neighbors, and neighboring stand-holders. All told the same story. "Mrs. Patzer's butter and produce was the best going, and no wonder." Finally I begged Mrs. Patzer to tell me the exact reasons for "and no wonder."

First, however, I must say that even were Mrs. Patzer a stranger in a strange market, carrying out the same methods, she would draw trade.

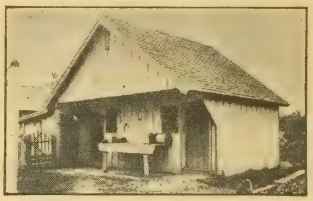
White oilcloth in the best of condition covers the stand. The eggs are in napkin-lined baskets, in which eggs and linen rival each other in cleanliness. The cottage cheese is in a blue-and-white china bowl, quart and pint paper-box containers beside it. Currants, gooseberries, strawberries, peas, beans, etc., were in quart boxes, which hold full measure of nothing but first-class, unwilted produce. The butter rolls are wrapped in rice paper and kept in a linen-lined basket. These, with Mrs. Patzer behind the counter, wearing a trim dress in perfect harmony with her business surroundings, completes a trade-drawing magnet. You want to buy.

Mrs. Patzer has been in the market trade for twenty years. In response to my request she has herewith outlined her marketing and buttermaking methods.

"Twenty years ago markets were dull. Butter sold as low as two pounds for a quarter. Eggs sold for ten cents a dozen, three dozen for twenty-five cents. The highest price for dressed chickens was fifty cents—usually they brought forty cents. Still, feeds did not cost so much then. Corn sold as low as forty cents a bushel.

"It has always been my rule when taking chickens to market to handle only my own and then tell customers the exact truth about each. For instance a year-old fowl is a year old, it is never an eighteen-month-old bird, whose youth has been restored by a forgetful memory.

"Quality speaks for itself, and so your trade is readily educated into willingness to pay the prices you must need



In this modest milkhouse Mrs. Patzer produces high-grade butter

ask for superfine products. Cheapness, I have found, is never a quality advertisement. Have your products as near perfect as possible, then you can honestly recommend what you have. People are glad to learn they can always depend upon your word.

"Chickens need flesh-building as well as egg-producing foods. Everyone can gauge the ration best adapted for her poultry, always remembering a warm mash once a day is good; table scraps are excellent; and they should always have some form of green food. They require meat of some kind; I use the dried beef-scraps from the big packing houses sold by poultry feed dealers. They thrive on free range, and especially in orchards. Pure fresh water is a necessity. Cleanliness is one of the best paying poultry aids. Whitewash, with carbolic acid mixed in it, should be popular in the fowls' quarters. Fight vermin, for they are deadly. Keep good nests, which should be frequently renewed. Tobacco stems, or nests made wholly of tobacco leaves, make lice-free nests. Contented hens mean eggs are plentiful and flesh building goes on rapidly.

"My daughter, as well as myself, loves to work in the garden, and I sometimes think that largely accounts for our gardening success. We only aim to handle surplus garden products, for we couldn't competently take care of both an extensive garden and our butter, eggs and poultry, which we always sell dressed."

Replying to my question "Does it ever pay to substitute?" Mrs. Patzer said:

"It never pays. When I haven't enough I let my customers go elsewhere and exercise their judgment in purchasing."

"Does a market-stand trade pay better than regular home-visited customers, or is time required for getting to the different residences the chief bar?" I asked.

"More time is required. Then, too, when going to houses, one can usually only advantageously dispose of what is actually ordered. On market you can take whatever you have to spare, and if it is attractive in appearance, and not exorbitant in price, you have no trouble in selling it. The first demand for building up a permanent high-class market, as well as house trade, is never-varying quality. Give quality and people willingly pay a premium," she replied.

"Is cooperation among neighbors in retail marketing of dairy or poultry products possible, wise, or expedient?" was my next in search of "why" facts query.

"If produce were always No. 1 it could be done. Otherwise no. Personally I would not engage in it. I do not mean to imply my products are the best. I simply say regular customers are used to certain products, and those are, naturally, the grades they want. The only sure way to guarantee the filling of this want is to assume personal responsibility by doing the work yourself or having it performed under your immediate supervision."

"How far is it possible to live from a city market?" was yet another question.

"One should be within fifteen miles, or else be able to take the trolley or automobile. We drive two miles to the car line, and then ride six miles on the traction, altho we are planning to change from buggy and trolley to auto. A car means nearer, or rather quicker to business, and includes pleasure trips as well. Our neighbors all get service and pleasure with their automobiles, the children threw out constant and pronounced hints, and Mr. Patzer and I, I will confess, are becoming quite interested," and we both laughed.

Their Jerseys' rations are carefully looked after. All feeds are double in price to what they were when their

(Continued on Page 35)

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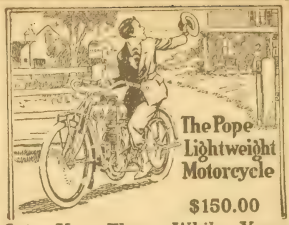

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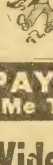

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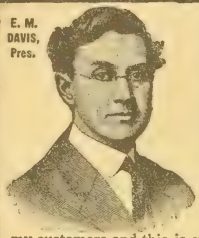

E. M. DAVIS, Pres.

Mr. Wide Awake Man!

Here's Your Chance—The Chance of a Lifetime. The Greatest Proposition in America.

LISTEN! I mean just what I say. I can give you a job that will pay you $30 a week and an opportunity to work up to $3000 a year. I've simply got to have 100 more new agents right away to supply goods to my customers and this is your chance to make big money quick. I am looking for bright, wide-awake men and women who are in earnest, who know Opportunity when they see it and who will play on the square. It doesn't make any difference what you are — doctor, merchant, school teacher, clerk, farmer, or if you are just finishing school, just write me and secure this job immediately.

NO EXPERIENCE REQUIRED

Not a bit of experience needed. Just say you are willing to work and I'll show you how to make this big money. These goods are daily necessities but sell at half store prices. F. Roley of Alabama made $53.00 in one day selling my goods. Beginners start right out making real big money.

EASY PLEASANT WORK

There never was such a cinch—there never will be again. My goods are right, my plan square—my methods simple, and my word as good as a bond. Remember, I'm an old time agent myself. My 18 years experience and great 6 story factory building back you at every step. "Square Deal" Davis is what my thousands of delighted agents call me. I'll start you just as carefully as I did them.

Now Is the Best Time To Begin

Don't fool around or waste your time when you can make big money on my plan. I've given you facts—undownable facts. My promises are right—my plan is right. So rise up and get into this way of making more money than you ever dreamed of. I put it to you square—do you want this job? Then grab it, now—this minute—and write me personally so I can explain all about my great proposition. Don't wait—get after this sure money—Now! E. M. Davis, Pres.

E. M. DAVIS SOAP CO., Dept. 997 CHICAGO

$3.35 Worth to Sell for $1

Lucky 'Leven Combination in display case. Each article full drug store size. Actual size of box 6x13 3-4 in. This is merely one example of our many big winners for agents.

SEE HERE WHAT THE CONTENTS ARE

Trinola Stain Remover Soap	$0.10
Princess Borated Talcum	.15
Medco Triple Extract Perfume	.50
Pearl Dentifrice Tooth Soap	.25
Glycerine and Buttermilk Soap	.10
Fine Apple Cream Soap	.25
Medco Shampoo Hair Tonic	.50
Medco Cuticle Soap	.25
Empress Cucumber Cream	.50
My Lady Tar for Shampooing	.25
Empress Face Powder	.50
Total Value	$3.35

TEN BOXES MEANS $5.00 A DAY

When you show your customers this gorgeous case, the array of fine toilet goods will dazzle their eyes. And when at the end of your spiel you state the low price of $1.00 for all this the money's yours. This is only a sample—only one winner of our 37 varieties

DEFECTS IN BUTTER

Much butter made on the farm is defective. It either has a "poor" body, mottles, grit, specks, or other objectionable features. The "body" of butter is of paramount importance. Butter that has a good body will stand up even at a high temperature, while that lacking in body will become oily, and melt even at a low temperature.

Butter having a good body is firm and waxy to the pressure of the thumb, is free from surplus moisture, and the brine is clear and not milky. Butter should not be greasy, spongy or sticky. A first-class product has a good grain; that is when a piece is broken it has the appearance of a broken end of a bar of steel. Poor bodied butter is caused by overchurning and overworking, also by ripening the cream and churning and working the butter at too high a temperature.

There are several things which produce mottles: overchurning, washing with water that is too cold, uneven distribution of the salt, and too little washing. When butter is churned, especially if it be churned at a low temperature, it is not an easy matter to incorporate the salt properly. If the butter is washed with very cold water after having been churned at a very high temperature the outside of the granules will harden and cause mottles by not dissolving as much salt as the softer parts. These hard parts will not mix with the softer parts. In order to have little or no trouble with mottles, the butter should be churned to small granules, and in cold weather washed with water at a temperature of 55 to 57 degrees, and in hot weather with water at 50 to 52 degrees.

Before the butter is drained dry, add moistened salt, then revolve the churn and mix three or four times. Now let the butter stand for five minutes, then give the churn four more revolutions, drain through the cover for about fifteen minutes and finish the working process. Grit in butter is almost as undesirable and objectionable as mottles, and is invariably caused by churning at a too high temperature, by overchurning, washing with water that is too warm, or draining the butter too dry before adding the salt. This can be avoided by churning at a lower temperature, by stopping the churning when the butter is in fine granular form, by washing the butter with water at a temperature not too high, and by adding salt, either moistened or dry, before the butter has drained too dry. The salt should be well mixed with the butter, and the butter allowed to stand for about five minutes before being worked.

Specks in butter are most generally caused by not straining the cream, and by sour hand-separator cream. When it is found after churning that there are specks in the butter, the churn should be filled half full of water, two per cent of salt added, and the churn given three or four revolutions. It is necessary to let the churn stand for a few minutes to allow the butter to rise to the top of the water, then draw off the water. This process should be repeated until all of the specks are washed out, at the same time exercising care not to injure the butter. Not infrequently are defects in butter caused by unclean utensils.

Mrs. Patzer's Specialized Effort

(Continued from Page 32)

buttermaking was first started, and so necessary caution and study are essential to secure the heaviest and richest milk flow. This study is not irksome for the results are so worth while.

The chief items in the making of the butter which her customers have christened "Just Right" are:

"The milk is good and clean, from milk buckets on. Soap is never used on utensils. Sal soda is used to some extent, and sometimes a scouring powder in lukewarm water, after which the utensils are carefully scalded. We use a separator, always letting the cream set six to eight hours before adding to other cream. The cream is energetically stirred every other day, so that the new and older cream are thoroly mixed. We use the cream pretty tart. A thermometer is necessary, as in winter the cream should be 64 degrees Fahrenheit and in summer 58 degrees Fahrenheit. When too cold set in a tub of hot water until it reaches the right temperature.

"When preparing to churn, rinse the churn with boiling water. Draw this off, and put in cold water until it is chilled. Then put in cream. The same speed should last thruout churning. We use a barrel churn.

"When the butter comes draw off the buttermilk. Put in cold water, then swing the churn to wash the butter, adding fresh water until it runs off clear. Work until no moisture can be detected. Salt to taste, weigh, print and put in cold water for from twenty to thirty minutes, then wrap in rice paper which won't tear nor soak.

"We do not use ice, preferring to keep the butter in stone crocks standing in running water in the springhouse cement tank. The water is pumped by our windmill, which also supplies the house and barn."

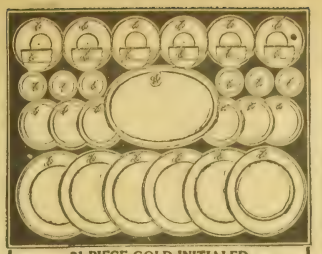
Mrs. Patzer's methods will be money enticers anywhere and everywhere. Then, too, they are common-sense, inexpensive ways. If you haven't been successful, or haven't tried at all, suppose you give these methods a trial. I am sure you will find they'll pay.

PRELIMINARY GARDENING

To be successful with the flower garden one must begin to lay the plans in midwinter. There are some annuals that must be started early, and geraniums and other plants should be propagated from slips, to assure plenty of thrifty plants for the lawn beds. It is also well, if it has not already been done, to make a sort of survey of the home surroundings, and decide what to plant. A rough plan can be made, and the distances surveyed with a tape measure. It is then an easy matter to decide where to put the lawn beds, and what corners need a bit of shrubbery to cover up their bareness.

It is well to order seeds as early as February, as there are a number of kinds that will need to be planted in that month. One should also order what shrubbery one intends to plant, for these ornamentals should be put in the ground as early as possible in the spring.

In looking over the good things in Farm News this issue, don't miss the $5,000.00 Cash-Prize Contest, FREE, on Page 43.



31 PIECE GOLD INITIALED

DINNER SET FREE

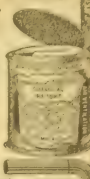
For A Few Hours Easy Work

Every piece pure white, high grade china, blue edge and gold initialed. One of the richest looking, most stylish Dinner Sets on the market. Absolutely up-to-the-minute and of undisputable quality. Guaranteed not to craze. Will add beauty to any table. Get this set. Merely give away FREE 12 Beautiful Art Pictures 16x20 inches (sold for $1.00 each in many stores) with 12 cans of White Cloverine Salve, which you sell at 25c each. Millions using it for cuts, eczema, catarrh, colds, piles, burns, etc. Send us the $3.00 collected and the set is yours. We've been making these offers for 20 years. The Wilson plan is the easiest and absolutely square. No money required. Simply send name and address. Pictures and Salve sent promptly prepaid.

WILSON CHEMICAL CO. Dept. 223 TYRONE, PA.

COMFORT CHEMICAL CLOSET

ODORLESS SANITARY GERM-PROOF



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Put a warm Comfort Toilet in your home; a guarantee of healthy, sanitary conditions. Germ life killed by chemicals in retort. Emptied once a month—no more trouble than throwing out coffee grounds. Needs no other attention. Boards of Health endorse it. Write now for literature, prices, etc.

AGENTS CAN EARN $10 TO $25 DAILY

Here's something going like a prairie fire. Best thing that ever headed your way—big chance to clean up $25 a day if you will hustle. Sale sure in every home without a toilet. Hardly any limit to your earning. Don't sleep over this. Send postal by next mail. Biggest money-making easiest selling proposition ever put up to an agent. Exclusive territory. Write now for agents proposition.

Comfort Chemical Closet Co.
982 Factories Bldg. Toledo, Ohio

Free Automobile Contest on Page 38. Don't Miss it.

This Elegant 56-Pc. Dinner Set Is Yours

The Most Gigantic Offer Of The Century.

You Need No Money. We Trust You. We Pay Freight.

What more satisfaction or pleasure could you have than to possess a Dinner Set so beautiful and so attractive that it would be a joy to your heart and the envy of your friends and neighbors? We now offer to every woman, ABSOLUTELY FREE, a fine, stylishly embossed, handsomely floral decorated full size 56-pc. Dinner Set **For Selling Only A Few 7-Pc. Berry Sets** Rock Crystal Pattern, the latest brilliant cut-glass design, full size for family use at the price of 50c. a set. If preferred, you can have choice of hundreds of other useful premiums, such as Furniture, Wearing Apparel, Linens, Dry Goods, Graniteware, Lamps, Rugs, Clocks, Dishes, Silverware, in fact, anything you need; or we will pay you a Large Cash Commission. Since 1897, we have furnished thousands of agents' homes. We don't try to sell YOU anything. We want you to introduce our fine Groceries, Family Supplies, Novelties and Jewelry. Our plans are simple, easy, sell at sight. Every home is a prospective sale. Save money for your friends and earn a valuable premium at the same time. No experience is needed. The quality of our goods is unquestionable. Best of all

We Pay The Freight

On your premiums and customers' goods and allow you 30 days time to deliver and collect. In this way you see and know that everything is just as advertised before paying us. Therefore, from beginning to end of transaction you do not invest a penny of your own.

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A handsome 26-pc. Silverine Set, an elegant decorated Parlor Lamp or a 10-pc. Decorated Toilet Set is given FREE of all cost or work of any kind whatsoever. Simply send us your name and address and ask for this FREE PRESENT. Write for our FREE SAMPLE OUTFIT and other things. If you decide not to work, you may keep everything FREE of charge for your trouble of answering this advertisement. You advance no money. You have nothing to risk. Our methods are honest. A 2-cent stamp or a post card is your only expense to try our plan. Remember, the sample outfit and special present are absolutely FREE. Send at once. Don't delay. WRITE TODAY.

THE PURE FOOD CO., 240 W. PEARL ST., CINCINNATI, O.

We can safely recommend The Pure Food Co. as being a thoroughly reliable & responsible firm—*Editor*

This Little Girl Was Born a Cripple

Helen Martin was born with a very badly deformed club foot. She came to the McLain Sanitarium after having been operated upon and wearing a plaster cast without satisfactory results. The upper picture shows her condition at that time. Her mother says:

"Helen's foot is now straight and strong. She doesn't limp, and you see by her picture how happy she now is—and so am I. I will always recommend your institution and answer any letters about what you did for Helen."

MRS. E. MARTIN.
Westboro, Wis.

Write Mrs. Martin and ask questions. This thoroughly equipped private sanitarium is devoted exclusively to treating children and young adults afflicted with Club Feet, Spinal Diseases and Curvature, Infantile Paralysis, Hip Disease, Bow Legs, Wry Neck, etc. Hundreds of cases successfully treated every year.

Write for our book, "Deformities and Paralysis"—also "Book of References"—both free. Owing to our more than 30 years experience, our advice should be valuable.

The McLain Orthopedic Sanitarium
948 Aubert Avenue, St. Louis, Mo.

How to Make a Good Lawn

One of the Infallible Indications of Enterprising, Thrifty Farm Management

IT REQUIRES some careful planning to make a good lawn. Mistakes are difficult to correct. Shrubbery and flowers can be replanted and rearranged year by year with comparatively little trouble, but making a new lawn is a far greater undertaking. It means making over of such a large area that it is more than likely to be deferred from year to year, with the result that the home surroundings lack that richness and artistic appearance that inspires at once a restful and contented feeling. The greensward is the one permanent feature which should look attractive from all points of view at all times of the year.

Of first importance is a gradual sloping grade that will give proper drainage. If the ground about the buildings is low and damp, or has a subsoil of clay, it would be best, at the start, to lay tile drains from two to three feet below the surface, running toward the lowest point, there to empty into a main line of tile. These drains should be laid about twenty feet apart in a clay soil. The best tile to use is the ordinary drain tile, laid end to end, with a fall of at least three inches to the rod, taking care that there is a constant grade, so that the drain will not be clogged. Over these tiles the fill should be of fine stone or gravel, to convey the water rapidly to the intersections where it enters the tiles, and to prevent loose materials from entering and clogging the tile; then the topsoil may be placed, thus completing the grade.

A study of the conditions of the soil should be made to determine its texture and richness; whether sour or sweet, and its physical condition. Soil that is rich is very often acid, which must be corrected by applying lime, before it will produce luxuriant growths of grass and clover.

On coarse sandy or gravelly soils, the question of fertility is of first importance. The cheapest means of securing vegetable matter and fertility is to grow and plow under leguminous crops, whose roots will gather nitrogen from the atmosphere. These crops not only add to the store of plant-food in the soil, but they improve its physical condition as well. Where the lawn must be seeded without the growing of these crops, the entire area should be covered with an application of well-rotted farm manure, which contains no weed seeds, and then plowed under.

Where this is not possible, chemical plant-foods should be used in liberal quantities. A complete fertilizer at the rate of eight hundred pounds to the acre, reinforced by one hundred pounds of nitrate of soda to the acre, and thoroly plowed in, will usually give good results. This applies to soil that is unusually poor. The quantity of fertilizer should be regulated by the knowledge of the soil conditions. After this fertilizing, when the soil is mellow, and a smooth surface is secured by constant tillage with fine garden tools, we are ready to sow the grass seed.

Opinions differ widely on the values of the special "lawn grass seed-mixtures," which the seedsmen offer. As a rule, they give much quicker results, which fact alone is worth a great deal in the generality of cases. If one can afford to wait two or three years for a lawn to assume a properly green appearance, and form a dense turf, it may be safe to seed it with one kind of grass. The famous bluegrass of Kentucky (Poa pratensis) is the best single grass to use for the purpose, and it thrives on any but an acid soil. When the Kentucky bluegrass will not grow (other conditions being right), the soil needs a dressing of lime. But when it will grow, it will in the course of a few years make a good lawn.

The grass for a lawn must be perennial, and spreading by creeping stems. These qualities Kentucky bluegrass has, but it makes only a very slow growth during the first year, it does not maintain a fresh green color in the middle of the summer, and it is an expensive seed. It is a strong growing grass, how-

AGENTS! $1200.00 IN COLD CASH

MADE, PAID, BANKED IN 30 DAYS, BY STONEMAN—$15,000 TO DATE.

LISTEN This opportunity is open to you—this money—the cold cash—can be *yours*. We want 5,000 good men immediately. The opportunity is open for acceptance today. You, and you alone, by waiting too long, can loose it. No experience necessary. Business supplies capital. Get complete facts at once. *Ask to be shown.* Get in line. Make 1916 the biggest you have ever lived or dreamed of. You don't have to wait a month—not even a week—*payments can start the first day;* and you can work into a position which enabled one of our hustling money-makers to order

$13,245.00 IN 110 DAYS

We have been quietly securing men from all walks of life—ministers, clerks, farmers, doctors, lawyers, teachers, etc.—enabling them with our co-operation and $50.00 APPROPRIATION, to get what we here offer and can do for you. Some of these men you may know—possibly have envied their prosperity without understanding the reason of their success. 1916 will break all records—agents actually getting rich. Think of these figures: Langley (liveryman), $115 FIRST DAY; Rasp (agent), $1,685 in 73 days; Beem (solicitor), $164.25 WEEKLY FOR 12 WEEKS; Korstad (farmer), $2,212 in a few weeks; Juell (clerk), $6,800; Hart (farmer, $5,000; Wilson (cashier), $3,000 IN 30 DAYS. Let us refer you to these men—to the U. S. GOVERNMENT, banks, business houses, noted people at home and abroad—let us tell you about our startling plan of universal distribution through special representatives which absolutely insures.

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INVESTIGATE AND BE AMAZED

Find out how Ovitt (Iowa minister) ordered over 800 outfits in 11 days; Cook (solicitor), $4,000 to date; Rogers (surveyor), $2,500. He writes: "Selling baths has got me one piece of property, expect to get another."

Learn how O. P. Schleicher, Ohio (minister), received $195 TWELVE HOURS AFTER APPOINTMENT. Hundreds share similar prosperity—banking money—buying homes, automobiles. Hoard (doctor), $2,200. SAME APPOINTMENT SHOULD MEAN SAME MONEY TO YOU. Rise to big earnings, wages freedom, ownership and private monopoly. KNOWING THE REASON DISPELS ALL DOUBT.

RISK ONE CENT TO MAKE THOUSANDS

And say with Lodwick, Maine (solicitor): "Lucky I answered your ad. It's great—money coming fast—17 orders to date—sells on sight." Why should not Cashman say: "The man who could not sell your goods could not sell bread in a famine." Get a postal card—put your name and address on it this minute—drop it in the mail box, addressed to us today. Heed this caution from Chas. Starr, of Michigan, who writes: "Sorry this field is closed—SHOULD HAVE ACTED SOONER, but was skeptical. Your local man's GREAT SUCCESS has set everybody talking and proves I WAS A CHUMP. WONDERFUL WHAT A MAN CAN DO WITH A REAL OPPORTUNITY."

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THE ALLEN MFG. COMPANY, 153 ALLEN BUILDING, TOLEDO, OHIO

ever, and when used in mixtures generally crowds out the other grasses in the course of a few years. For establishing a good lawn in this altitude I would suggest the following formula

Kentucky bluegrass, 12 quarts; Rhode Island bent, 9 quarts; English rye, 4 quarts.

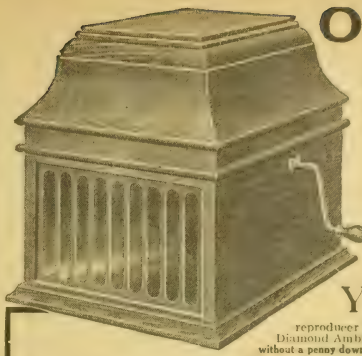
The English rye will start growth almost as soon as sown, and in a month will form a sheet of green. It is not a permanent grass, however, being a biennial, and will be destroyed by the mowing during the second season. The Rhode Island bent will germinate quickly, and, if the soil is of uneven quality, will take hold and form a good turf where the bluegrass would fail.

Some will argue that these extra grasses are wasted because they are eventually crowded out by the Kentucky bluegrass, but this is not so. The Kentucky bluegrass will not form a thick turf for two or three years, and in the meantime one may enjoy a good lawn. A variety of other grasses are added to the lawn mixtures for various purposes, but are not essential in the generality of cases. The wood meadowgrass (Pot nemoralis), will thrive under shade trees where some of the other grasses fail. Timothy is a coarse-growing grass that leaves the soil rough and full of holes. On large farms and country estates it is used in mixtures that are calculated to give meadow effects, but it should never be used in lawn-grass mixtures. White clover is frequently used in lawn-grass mixtures. It does no harm, and keeps green when the other grasses become browned over. Whether or not it shall be used is purely a matter of personal fancy.

New lawns may be seeded successfully in April or May, or early in September. If the situation is not an abnormally dry one, the seeding may be done at any time during the summer, but the danger of loss is always present. If the seeding is done during the summer it is safer to sow a scattering of oats before applying the grass seed. The oat plants will shelter the grasses, and will not seriously damage them, as they are destroyed by the mower. Some sow the grass seed on the snow early in the spring. This gives an advantage, as the seeds begin to grow before it would be possible to get on the ground, but it is not likely to be as successful as the sowing of the seed later, when it is possible to give the ground more thoro preparation.

If the grass is sown in September it will not need cutting the same season. If the seeding is done in the spring or summer, the grass should be cut as soon as it is three or four inches high. Do

A good lawn, once established, will improve for the first four or five years, if kept well clipped and rolled. Finely composted farm manure makes an excellent fall mulch, and keeps the roots of the grass in proper condition during the winter. Clean straw will also serve as a mulch. Never use hay with undesirable weeds or grass seed in it, as it will seed the lawn with weeds and rank-growing grasses that are sure to crowd out the more desirable grasses. Should any bare spots appear, they must be made mellow and again seeded down. As the fall approaches cut the grass close two or three times, but cutting should cease about the middle of September, so that the late fall growth may form a mulch to protect the roots of the grass plants in the winter.



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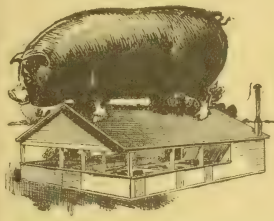

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The Case of the Clovers

A Descriptive Article Giving the Relative Values and Characteristics of This Valuable Family

By W. F. Purdue

ALL of the several varieties of clover are good for the farmer to grow, each in its place. In the following paragraphs we have briefly described each variety so that, with its characteristics in mind, some readers may be able to decide which variety is best adapted to their particular needs.

The Mammoth, or Big English, clover grows very strong and vigorous, so much so that on good soil it is much too coarse for hay. It is very late in maturing, and produces only one crop during the season. The blossom is purple and greatly resembles the medium red clover blossom. This variety of clover roots very deeply and makes a very vigorous growth, hence it is a good variety to grow for increasing fertility in the soil, when the best quality of hay is not cared for. It seeds well, in fact better than the common red variety, and is usually grown for pasturage and seed. Hogs may be pastured on the clover during the early part of the season, then when the plants begin to mature the animals are turned off and a seed crop is harvested which furnishes the grower some ready money.

Of course the stock allowed on the clover is limited in number, so that the animals will not keep the clover plants over the entire field cropped closely. One of the writer's neighbors last season turned in one hundred shoats into a field of Mammoth clover, the field contained forty acres, early in the spring, and removed them about the first of June. The clover then matured and produced one hundred bushels of seed, which was marketed at nine dollars per bushel. One objection in letting this variety of clover seed is that it matures so late in the season that a great many weed seeds ripen before the clover is ripe. Mammoth clover does very well to sow in combination with other clovers for hog or cattle pasture. It is a biennial and can be depended on for seed and pasture only one season.

The common red, or June, variety of clover has much the same appearance as the Mammoth, but matures much earlier, and does not grow so rank, and hence is better adapted for hay. It also has the advantage over the Mammoth in that it produces two crops, one crop of hay and a crop of seed, the

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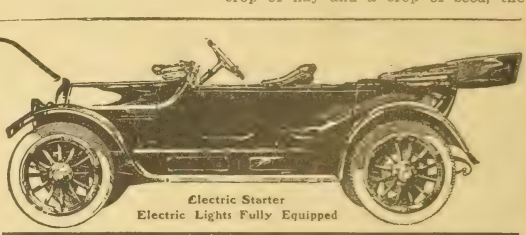

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Our great Automobile offer just closed, in which Mr. George was awarded a brand new Overland Automobile, was so satisfactory to everybody concerned that we have decided to give away immediately another beautiful brand new Overland Automobile.
If you want an automobile, here is an opportunity that you should not overlook. You can get this machine for just a little effort during your spare time. It will not interfere with your regular duties.
If you are willing to do us a small favor now and then, you have just as good a chance as Mr. George to get one of these beautiful Overland Automobiles. No matter where you live, we will ship the car to you, freight prepaid, so that you need not be out a penny of expense.
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same season. However, the hay crop must be properly managed if a good crop of seed is desired. Begin the hay harvest just as soon as the first blossoms commence to turn brown, and clear the hay from the ground as promptly as possible. If the hay is allowed to lie on the ground for even a few days it has a tendency to partially smother the clipped plants that immediately start to growing again, and their vitality will be reduced to some extent, so that the yield of seed will be materially reduced in quantity. **Medium red clover roots fairly deeply** and ,taking everything in consideration, it is the variety to depend upon for a hay crop and as a soil renovator. It is a biennial, getting only nicely started in the nurse crop the first season, and the second season it is in its prime and accomplishes its life work, after which it should be plowed under.

Alsike clover grows much finer than either the June or Mammoth varieties and bears a whitish crimson blossom. It produces ordinarily but the one crop of hay or seed during the same season. It grows in ordinary seasons quite short on dry, tillable lands and consequently does not yield a heavy hay crop. In a wet season, however, it does well and yields a satisfactory crop. Alsike clover can be grown successfully on land that is flooded at certain times during the year, on which red clover will not grow at all. Alsike is not recognized by soil experts to be so valuable a crop as the red clover, for the reason that it does not root so deeply as the latter variety. But it is a legume, and hence will improve the soil, and, considering the fact that it is more hardy than the red clover, and will grow on many soils where red clover will not do well, alsike has proved itself to be a valuable member of the clover family. While alsike does not ordinarily yield so large a crop of hay per acre as the red clover of equal stand will, yet it yields a profitable crop, and there is but little difference in actual feeding value between the two clovers.

Taking everything into consideration, alsike clover is a very god variety to sow with the red clover and timothy, or other pasture grass mixtures, on land that is intended for pasture or permanent meadow. Mix it with the other varieties of clover at the rate of a peck of alsike to each bushel of the other variety. Alsike comes very near being a perennial, as it will reseed itself for several successive years.

Sweet clover, which was regarded by the majority of farmers as a weed until recently, is now held in high regard as a soil reclaimer. At the same time it yields profitable crops of hay and seed. Three varieties of this clover are known in America, two being biennials and one an annual. The Melilotus Alba, a biennial with white blossoms, is the most widely distributed and the most valuable. The seed may be sown in wheat in early spring and in oats as soon as that crop is out, from twelve to fifteen pounds of hulled seed being used per acre. Sometimes the ground is specially prepared for this crop in much the same manner as land is prepared for alfalfa seeding. In this case twenty to thirty pounds of **hulled seed are either broadcasted or** drilled in, being covered very lightly. Seedings are made either in May or in August. Heavy seedings are necessary on account of the fact that many of the seeds are so hard that they never germinate.

Sweet clover is very hardy and will **thrive in many places where other clo**vers will not do well. For this reason, and also because it is a nitrogen gatherer of high quality, and furnishes an abundant supply of organic matter when turned under as green manure, or allowed to rot on the ground, it is often seeded in waste places and on washed soils. On the latter it is often seeded and allowed to grow up, then die and reseed itself, and so on until the washing has been stopped and the land has been brought back to a good state of fertility.

MARKETING WITH MOTOR TRUCK

The motor truck has become an important factor in the distribution of fruit and truck crops. Every year more products are being hauled to city markets by motor trucks. In order to get at the net value of this means of transportation, it is necessary to make a careful comparison of the costs of hauling the various products to market by team, truck and trolley.

A market grower living twenty-two miles from Buffalo, N. Y., hauls a load of produce to market by team three days every week. He leaves his farm with a load at 7 or 8 o'clock in the evening and reaches the city market at from 2 to 3 o'clock in the morning. He sells his load, and, after feeding his team, starts back home and is there in time for supper.

With a schedule like this he must spend three nights and three days each week going to market and returning to his home. Neither he nor his team are fit for work when at home. The total cost for each trip to market amounts to about $8. As the average load consists of about sixty bushels of apples, or other products in proportion, the net cost of the trip is from 20 to 30 cents per 100 pounds.

A neighbor of his uses a motor truck, and leaves home about 5 o'clock in the afternoon, arrives at the city market at 8 or 9 o'clock, and sleeps until morning. The next morning he sells his load, and arrives home in time for dinner. Again he loads up the truck and reaches the market in time for supper, and gets a good night's rest.

He makes six trips a week, hauls much heavier loads, and his horses are left on the farm. During an extremely busy marketing season he frequently makes two trips a day, selling his second load to be delivered in the afternoon. He hauls from 80 to 100 bushels of apples or potatoes, or an equal quantity of other produce, and the cost of marketing is from 10 to 20 cents per 100 pounds, allowing for the cost of the truck, maintenance and depreciation.

An extensive market gardener, operating a large motor truck between his farm and the city market, said:

"It costs about $6 a day to keep a team hauling produce between my farms and the markets. It costs me less than $10 a day to perform the work of the five teams with my new truck. I figure that $10 a day is sufficient to pay all costs of repairs and depreciation on the investment."—W. M. K.

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If you have ever dreamed of having a nice little pony, write for my plan that has made it easy for boys and girls to get ponies. All my ponies are well trained and gentle. If you haven't a pony and want this one send me your name today.

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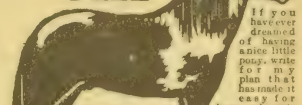

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What makes a bee hum? Does a plant eat?
Is a stone alive?

Boys and girls, how would you like to have a bright, shining, new Five Dollar gold-piece to call your very own? Well, here's a chance to get that very thing, and at the same time learn five good lessons. Send me the best answers you can make up to each of the five questions above. If you don't know the answers, find out. Ask your teacher, your preacher or anyone whom you think ought to know. Find out where you can read the answers for yourself, and then write it out. Be brief.

For what we consider the most concise, neatest and best answer we will send $5.00 in gold. The next best $3.00, and $1.00 for each of the next two best. Contest closes March 1, 1916. Send your answer to Prize Editor, Farm News, Springfield, Ohio.

The names of the prize-winners in the contest which closed January 1 will be published in the March number of FARM NEWS

LITTLE BIRDS OF WINTER

By John B. Behrends

The other day I took a short walk out over the fields. I saw some little birds, which we may see most any day in the winter time. As I passed thru a field, close to a farmhouse, I saw about a dozen English sparrows on the roof of the big barn.

I saw three or four colonies of little snowbirds during the afternoon. All were seen along different hedges, except one flock, which were feeding on weed-seeds at the edge of a cornfield. Four crows were seen flying slowly to the northward.

In two or the flocks of snowbirds I saw some tree sparrows flying about in the midst of them. These little sparrows can always be quickly identified by the brown spot in the middle of their breasts. At one place I saw two of them alone, flying about from one leaning cornstalk to another in the middle of a large field.

In some willow trees, along a brook, a thieving bluejay was seen gliding from tree to tree.

A girl's interest in flowers should be encouraged

In a weedy fence corner a brown streak of a song sparrow looked just like a little mouse, as he hopped and flitted over the ground.

In an old pasture another song sparrow was seen jumping about in the middle of a brush pile. A short distance away I saw his mate fly from the grassy bank of a creek.

As I crossed a meadow I heard the notes of a prairie horned lark overhead. Looking up I saw him scooting along high in the air.

I then walked along some old hedge, which had been cut and left lay during the summer. Tall grass had grown up through this, and the rabbits and quail had made paths under it all along. I scared up a covey of nine quail out of this. First three of them whirred away, then a bunch of four, then a single one shot up from near my feet, followed quickly by another, the last one of the flock. They all flew down the hill to an old ditch, which had been filled in with hedge and other rubbish. A few minutes later I again caused them to take flight from the edge of this ditch.

HOW JIMMIE PETERS GOT HIS PONY

Little Jimmy Peters wanted a pony, and he wanted it so badly that he was on the lookout for every chance to get one. In Jimmy's circumstances the getting of a pony was well-nigh impossible. But everything comes to him who wants it, and wants it hard enough. So Jimmy's chance came.

In looking thru his father's paper he saw an advertisement in which a Pony, Carriage, Harness, Saddle and Bridle was offered to the boy or girl who could do the best work for Matt Young, the Pony Man, and it would not cost them one penny. So Jimmy wrote right away and in a day or so back came the particulars of what the Pony Man wanted Jimmy to do.

The work looked so easy that Jimmy went to work right away, and at the end of the first week Jimmy had seen everybody in his neighborhood, and had told them what he was working for—and they all helped him. Jimmy also sent several letters to distant relatives and friends, telling them how badly he wanted that pony and outfit, and he told it in such a way that all of the people he wrote to helped him to get it.

Jimmy worked early and late. He never lost a chance to tell what he was after, and the first thing he knew he had all of the neighborhood on his side, helping him to get the pony and outfit. He won, all right. Such pluck and perseverance always will win. And when the outfit, pony and all, came to Jimmy by express, all charges prepaid, the county all around soon learned that Jimmy was the winner, and they all rejoiced with him.

Now Jimmy's task wasn't so hard. What he did do, however, was to impress all the people he came in contact with that he was sincere in his desire to get that pony. One reason for Jimmy's easy victory was that many of the boys and girls started, and then listened to someone who told them that it was impossible for them to get the pony. Some people told Jimmy that, too, but they afterward turned in and helped him, because they saw that he was in earnest, and was out to win.

Now there is another chance to get a pony and outfit—just like the one Jimmy had, by the same man, Matt Young, the Pony Man, in this paper, and all you have to do to find out about it is to turn to Page 41, and write to Mr. Young right away, just like Jimmy did. Then follow his way of going after it, and you are bound to succeed. You won't have Jimmy to compete with in this contest, for he has his pony, and is as happy as a lark.

Young Dennis was a clever and capable mining engineer. Recently, he was obliged to take the stand as an expert in a lawsuit in Wyoming. The examination was conducted by a young and smart attorney, who patronized Mr. Dennis with all the authority of a few years' experience.

One of his questions related to the form in which the ore was found, a form generally known as "kidney lumps."

"Now, sir," said the attorney, somewhat superciliously, "how large are those lumps? You say that they are oblong in shape. Are they as long as my head?"

"Yes," replied young Dennis, "but not nearly so thick."

The young Depew children had very quick tempers, and were rather hard to govern. One day, Mr. Depew and his wife were having a quarrel about them.

"Well," exclaimed the wife, spitefully, "it is quite certain that they have your temper."

"Well," replied Depew, quietly, "it is also certain that they haven't yours, because you've got it all yourself."

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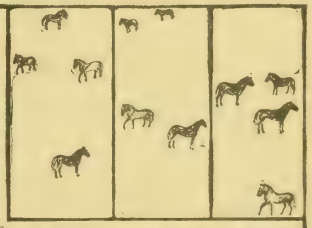
Solve This Picture

See Our Big Prize Offer Below

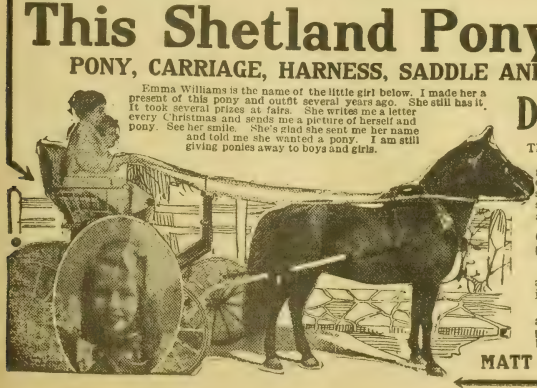
A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free. If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)



This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY



Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.

Do You Want This Pony?

The next pony I am going to give away is a beauty—jet black, about 42 inches high, perfectly sound, plump, well trained, kind, and as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one, if you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S13, Springfield, Ohio

Complete Instruction Book In CROCHET, TATTING, SMOCKING FREE

This book contains 50 pages each 7½x10½ inches, printed on heavy calendared paper. There are 48 illustrations of designs for yokes, edgings, luncheon sets, handkerchiefs, baby-wear, centerpieces, scarfs, bags, etc. Full detailed instructions are given for working designs. Amount and kind of material and tools are mentioned, making it a handbook for beginners as well as for those more experienced. The Household Guest is a monthly story and home paper, filled with short and long stories, social and fancy work departments and price jokes. For 25c, to pay for a twelve months' new or renewal subscription for yourself or a friend, we will send a copy of this beautiful Instructor free and prepaid at once. Or, send 12c for the book alone.
Household Guest, Crochet Dep., 550 N. LaSalle, Chicago

4 HAND COLORED PICTURES FREE

To introduce our other picture offers and grand free prize contest we will send **4 beautiful hand painted pictures free.** Each 6 x 8 inches. Send 4c postage. Some art stores ask 25c for such pictures.
C. Morris, Dept. 1C24, 550 N. La Salle St., Chicago

1916 Calendar Free

Send 4c postage and receive 16 Min. Pictures and we will send you a beautifully colored **1916 Calendar Free and Extra.** This offer to introduce our grand prize contest. Address
G. Harvey, Cal. Dept. 24. 550 N. La Salle St., Chicago

This Used Piano

Many splendid bargains in all standard makes of pianos, including Steinway, Knabe, Emerson, Kimball and others from $45 up to $195. Also second-hand player-pianos from $195 to $395. No money down. 30 days' free trial. Lowest payments.

Big Piano Book Free

containing beautiful illustrations of new Starck Pianos and a vast amount of piano information. Send today. 50 FREE MUSIC LESSONS with every piano. Write quick for latest bargain list.
P. A. STARCK PIANO CO., 172 STARCK BLDG. CHICAGO

OPEN A FARM STORE

WE SEND GOODS AND

We supply goods and we pay the freight. No house needed at start. Get your own supplies at wholesale and make money selling to others. Our wholesale prices will open your eyes. Handle everything from a box of notions to suit of clothes
CHAIN STORES CO., Box 182 Richmond, Va.

WE PAY THE FREIGHT

Secure These Rare Plants—Free

The wonderful Progressive Everbearing Strawberry Plants are becoming immensely popular. No wonder! You set them out in May and enjoy fine berries during the following summer and fall. No long wait for this crop!

Progressive Everbearing Strawberries take the risk out of Strawberry growing, too. The plants are much hardier than the common varieties. Ordinary spring frosts will not hurt them. Even if a heavy freeze does kill the early spring bloom, in 30 days they will bloom again.

Through a special contract with a grower of National reputation, The Farming Business is able to furnish to you FREE, these wonderful

Progressive Everbearing Strawberry Plants

or, if you prefer, Fall-bearing Strawberry Seeds—the true hybridized sort, and also plants of the ever-popular Chesapeake variety. All strains are pure. The Progressive plants will actually grow and fruit as described. A test patch of a square rod was set in May, 1914. Just 83 days after, the owner began gathering a fine crop, which continued till late October, aggregating 74¾ quarts. The great Chesapeake variety needs no introduction. The Fall-bearing Seeds afford a most interesting way to grow Strawberries.

These plants and seeds are scarce this year, and prices will be high, where they are obtainable at all. Act now and insure yours.

Our Plan

No. 1—Send $1 (stamps accepted) for The Farming Business—one year—52 big issues—and we will send in addition 12 healthy Progressive Everbearing Strawberry Plants, this spring just at the right time to set. Postage prepaid.

No. 2—Send one yearly subscription to The Farming Business together with $1 (stamps accepted), and in addition to the paper we will mail you one packet of true hybridized Fall-bearing Strawberry Seeds. This will give you about 500 plants.

No. 3—Send $2 (stamps accepted) for The Farming Business—2 years, 104 big issues—and we will send in addition 12 Progressive plants and also 25 plants of the popular Chesapeake variety.

You need the Farming Business in your home. It is practical, helpful, progressive, cheery. A great paper for the busy farmer and the entire family. The Vegetable Growers Magazine Section alone is worth the subscription price. It will pay you to accept one of our liberal offers. If already a subscriber your paper will be continued for an extra year—or two. Accept **today** to make sure of your **free** berry plants or seeds.

The Farming Business

Dept. F N.

500 N. Dearborn Street Chicago, Ill.

WINTER DAIRY FACTS

E. L. Vincent.

Maybe you have tried winter dairying and not done very well at it. If that is so, let's talk it over a few minutes, and see if there may not be some points you have overlooked. Winter dairying is a little different from summer, and possibly the reason why you have not reached just such success as you should may be due to some things that seem small in themselves.

For one thing, are you giving your cows just the stable care they ought to have? By that I do not mean feeding, and such work as that, important as that is. I mean, rather, the bodily attention given every individual member of the herd. If you never have done it, just get a good currycomb and brush especially for the cows, and use them every single day. It ought to be done in the morning before you begin to milk. Don't be rough about this, or act as if you did not think it amounted to much. Take your time at it, so that the cows will not be made nervous by the harsh digging you give them. Some cows can stand more of this than others whose skins are thin. But go carefully, and they will all come to enjoy it

Before you turn this proposition down stop and think what it means. It means that you are getting the skins of your cows in first-class condition. You are removing the dust and dandruff from the pores of the skin, so that the animal can breathe out a great deal of the impure matter that would otherwise be clogged up in the body. Push this farther. Grooming makes the cows healthier. For that reason they have a better appetite, they assimilate more food, and they pay you better returns. That is not all. It costs less to keep a cow that is cared for in first-class shape. This is not guesswork. It can be proven by facts and figures. So the currycomb and brush are not such simple things as they might be.

Now, here is another big-little thing. It will be worth something in your winter dairying if you follow it up. Make more of a study of your cows and feed them accordingly. Worth while? Uncle Sam thinks it is worth while to do such work. Just now there is a farm down in York state where the Department of Agriculture is carefully weighing cows, examining their bodies and giving them just as nearly as possible the amount of food every day that they need to do their level best. When this experiment is all over, a bulletin will be published, showing what the hired men of the Government have learned about feeding, so that we may all get a copy and learn from it how best to do our own farm dairy feeding.

But that will take some months, and we are now right into it on our own places. We do not need to wait for Uncle Sam to tell us all about it. We can do some investigating ourselves. You know, not all cows can eat and take care of as much food as others. You may have standing right side by side in your dairy two cows. One has a big body, long and deep, capable of eating and making over into milk a large amount of food. The one next to her is a short, shallow-bodied cow. If you are wise you will make your plans to get all these poor feeders off your hands, and replace them with cows that have a greater capacity for food.

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$5,000.00 ALL IN CASH

$1,500	-	1st prize
$ 750	-	2nd prize
$ 500	-	3rd prize
$ 250	-	4th prize
$ 125	-	5th prize
$ 100	-	6th prize
$ 75	-	7th prize
$ 50	-	8th prize
10 prizes of $25 each		
25 prizes of $10 each		
460 prizes of $2.50 each		

In the event of an ultimate tie each thing contestant will receive the full reward just as if there were no tie.

TODAY, RIGHT NOW, PLAY YOUR WAY TO YOUR SHARE OF $5.000 CASH--GET INTO THE MUSIC-TITLES-PICTUREGAME NOW

Music-Titles-Picturegame consists of 60 easy and interesting pictures. Each picture is drawn to represent the title of a song or some other musical composition. However, you do not need to know anything about songs or music, as all the titles you can use are to be found in the Official Music-Titles-Picturegame Catalog. This Catalog is an alphabetic list of titles, and from this list you select the titles you think best fit the pictures. Game is easy for you. MEN, WOMEN, BOYS AND GIRLS SHOULD PLAY THIS GAME. Do start today.

How to Play the Game: See the little object-lesson picture here. It represents the title of a song. Now what title do you think it could represent? Well, would the title "Columbia, the Gem of the Ocean" be a suitable title for the picture? Doesn't it fit the picture nicely? If you had a catalog before you, you would simply look under the letter "C" and sure enough you would find that title there. That's the way you find titles to the regular picturegame pictures. Isn't the game easy? Don't you think you can find titles to pictures just as well as anyone else? Well, then, you get into this game today, and make up your mind you're going to win that First prize, $1,500 cash. You need the money, so hurry up and don't delay an longer.

Now you know how to play the game. Every reader of this magazine should get into the game today. Remember, the $5,000 cash will positively be awarded and absolute fairness is guaranteed to all. This is a game for you to play in the winter evenings, in your leisure hours. Everyone has an equal opportunity to win. You don't have to canvass or solicit. Now please get into the game today. We do want to give you your share of the $5,000 in cash.

Profit and pleasure for you in this game. Everything is done to help you. See the little illustrations herewith. They are to show you what the COMPLETE MUSIC-TITLES PICTUREGAME OUTFIT LOOKS LIKE. Really the books are as large as story books. The Outfit consists of Picture Pamphlet (which contains the 60 pictures), the Catalog (which contains all the songs and other musical compositions you can use) and the Reply Book (which contains 60 pages, and on which you write down your answers to the pictures). This Outfit is all you need to successfully enter and play the game. Accept our very liberal subscription offer today and then you'll be on your way to your share of $5,000 cash.

$1,500 in cash is the first prize. It should be yours. Why not get it? Everyone has an equal opportunity. Fairness is guaranteed to all. Just think of the wonderful things you could do or buy with $1,500 in cash. You should win. Now **You**, whoever you are, get into this game today without fail.

Your life's opportunity to get a share of $5,000 cash. It certainly is a great one for you. It's so simple that YOU should start today. This contest closes for entry April 29, 1916, so if you get into the game today, you will have ample time to solve the pictures, and there is no reason why YOU should not win the $1,500 cash. The rules, free on application, show how you can compete without expense; but full information will come to you with the Outfit, so don't delay but start after the $1,500 cash today.

Our Special Offer to You
Accept it Today

Fill out and send in the coupon below today and we will send you

1 Reply Book to write answers in.
1 Catalog of titles.
1 set of pictures.
Family Magazine for one year.
Farm News for four years.

With this complete Outfit you can enter and play the $5,000 cash game.

Farm News is one of the best farm magazines published in this country. It's articles on modern farming are the best. It is full of interesting features for the farmer and his folks.

Family Magazine is an ideal magazine for the home. It's stories are clean and wholesome. It is just the magazine for the home. The Music-Titles-Picturegame was initiated by the Family Magazine, and Farm News has combined with them in offering the game to the public. So every reader of Farm News is invited to play the game. **Now today, accept our offer made to you. There is no reason why you should not win. We want to see you win. Everything is done to aid you. Get into the game today without fail and don't delay a minute longer.**

Without Fail Send in This Coupon Today Sure. It May Mean $1,500 to You

Farm News, Springfield, Ohio.

I hereby enter the $5,000 cash Music-Titles-Picturegame, and enclose one dollar for which send me Farm News for 4 years and Family Magazine for one year, and as a premium send me free the complete Music-Titles-Picturegame Outfit, consisting of Picture Pamphlet containing the 60 pictures, Catalog of titles, and Reply Book in which to write my answers in

Name . . . . . .

Address . . . . . .

No matter if you are in other picturegames, you should enter this game too.

A NEW WAY
To Get Your Clothes Free

A NEW PLAN TO MAKE BIG MONEY DURING YOUR SPARE TIME

Something different — better, bigger, more liberal than any offer ever made. **Lower prices—better clothes—bigger cash profits**—Express paid on everything.

Double Pay

FREE clothes and cash profits besides. We don't ask you to use your cash profits for your own clothes. Ours is a new and better plan.

An Extra Present with every order. Not a prize scheme. Choose what you want, work for it and get it besides your **Cash Profits. Agent's Complete Outfit FREE,** fifty-six stylish, real cloth samples—fifty Fashion Plates. Inside wholesale prices. **Everything FREE.** Get into the **big money-making class.** Just put your name on a post card and mail it to us **today.**

SPENCER MEAD CO., Dept. 185, Chicago

$36. MEX. MONEY 50C

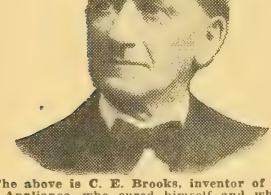
Genuine Mexican Currency as issued by forces of General Francisco Villa. These bills make fine souvenirs of the Mexican Revolution. 50c, $1, $5, $10 and $20 bills 25 cents each or all 5 for 50c. Selling fast. STAR CO. Dept. M. CHICAGO, ILL.

Don't Wear A Truss!

After Thirty Years Experience I Have Produced an Appliance for Men Women or Children That Cures Rupture

I Send It On Trial

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached



The above is C. E. Brooks, inventor of the Appliance, who cured himself and who is now giving others the benefit of his experience. If ruptured, write him today, at Marshall, Mich.

coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It gives instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

FREE INFORMATION COUPON

Mr. C. E. Brooks,
1779C State St., Marshall, Mich.

Please send me by mail, in plain wrapper, your illustrated book and full information about your Appliance for the cure of rupture.

Name .....

Address .....

City ..... State .....

Practical Farm Management

(Continued from Page 5)

feed and reasonably good care, we find it profitable to keep them for six or seven years.

Some of the best blood in the world has been sacrificed because the animals were badly managed when young, or because their owners feared they would get cross. It is folly to buy a high-priced breeding bull, and then kill him before he is six or seven years old, unless he proves a poor stock getter. By planning the yards and stall, so that one is not compelled to go into the same pen with the bull, the work of caring for him can be done with safety.

Beef Raising on Cornbelt Farms

(Continued from Page 15)

discing early in March and seeding with clover. The disc is weighed down so that it opens up the soil to a depth of three inches without tearing out strips of sod. This greatly improves the pasture, and in addition the clover increases the feeding value of the herbage. The cows get no supplemental grain until fall. Then they are separated from the calves and the calves are fed grain and all the clover or alfalfa hay they will eat. They soon take up with the change of feed and there is no appreciable loss of flesh before they become accustomed to the changed diet.

Immediately after the corn has been husked, the breeding herd is herded in the stalk fields every day until along in January, when the feed is cleaned up. They are gradually accustomed to the changed diet by confining them to small areas until they have cleaned up the feed. After they have cleaned up the stalk fields they are put into the winter feeding lot, and during the early spring the cows get about 30 pounds of corn silage per head daily. By making use of the stalk fields, oats straw and corn fodder, the actual cost of carrying the cow herd through the winter amounts to less than $5 per head. The corn silage has proven a very desirable feed for the cows and young stock, besides it makes the change from winter dry feeds to pasture grass less abrupt.

About twenty heifers are selected every spring to be kept for breeders in the herd. They are bred when two years old. In the winter the yearling and two-year-old heifers run together, and the heifer calves are kept separately, but all are fed silage, and have access to straw, corn fodder and clover hay at all times. No grain is fed them, and they all keep in good, vigorous condition, and present a thrifty and vigorous appearance. The heifer calves eat about 15 pounds of silage daily apiece, cleaning it up with a relish. The yearlings and two-year-olds eat considerably more than the younger calves.

A LAMP WITHOUT A WICK

The Sunshine Safety Lamp Co., 814 Factory Bldg., Kansas City, Mo., has a new portable gasoline lamp which gives the most powerful home light in the world—a blessing to every home not equipped with gas or electricity. 300 Candle Power at one cent per night. This remarkable lamp has no wick and no chimney, is absolutely safe and gives such universal satisfaction they are sending it on Free Trial. They want one person in each locality to whom they can refer new customers. Take advantage of their free trial offer. Agents wanted. Write them today.

1916 Model

Delivered TO YOU FREE

A sample 1916 model **"Ranger"** bicycle, on approval and **30 DAYS TRIAL.**

Write at once for large illustrated catalog showing *complete line* of bicycles, tires and supplies, and particulars of *most marvelous offer* ever made on a bicycle. You will be astonished at our ***low prices*** and *remarkable terms.*

RIDER AGENTS Wanted—Boys, make money taking orders for Bicycles, ***Tires*** and Sundries from our big catalog. **Do Business** *direct* with the leading bicycle house in America. **Do not buy** until you ***know*** what we can do for you. WRITE TO US.

MEAD CYCLE CO., DEPT. S-128 CHICAGO

Write today for our 168 page FREE Book on

Deafness

and learn how Perfect Hearing is now being restored in every condition of deafness or defective hearing. Our *"Little Wireless Phones for the Ears"* require no medicine but effectively replace what is lacking or defective in the natural ear drums. They are simple devices, which the wearer easily fits into the ears where they are invisible. Soft, safe and comfortable.

WILSON EAR DRUM CO., Incorporated
540 Inter-Southern Bldg. LOUISVILLE, KY.

Adler's Famous No Money Down FREE Trial Offer

Saves You $48.75

Take Your Own Time to Pay

My Free 30 Day Trial, No Money Down Offer Breaking all Records—Competition Banished

I originated the wonderful *Adler* plan of selling organs which has made the *"Adler"* a household word; more than 85,000 of these famous organs are now in the homes of the people. The time has arrived—*this very day*—for you to send for my wonderful Free Organ Catalog. Learn how you can have the World's Best Organ—winner of highest prize at St. Louis World's Fair—*also winners of Gold Medal at National Conservation Exposition, Knoxville, Tenn., 1913*—sent to your home without paying a cent, for a

FREE 30 Day Trial

Have it a month free. Send no money until you decide to buy. Then if you decide to keep it, pay me at your convenience in small amounts.

Easy Payments No Burden To You
No Interest—No Collectors

You take no risk and if, at the end of a year, the *"Adler"* fails to make good on every point I will refund every dollar you have paid. I give the longest guarantee made on organs—*for 50 full years.* I save you $48.75 because I sell direct from the $1,000,000 *Adler* Organ Factory (greatest in existence.) The *Adler Plan* wrecks all organ prices.

Save You HALF

Every *Adler Piano* is shipped direct from great $1,000,000 Adler Factory to home at lowest factory prices. I save you *half*—because the *Adler Plan* absolutely *wipes out middlemen,* giving you their profits. 30 days free trial. Easy payment plans.

Winners of Gold Medal at National Conservation Exposition, Knoxville, Tenn. 1913.

Write for Free Organ or Piano Book. Postal or coupon.

No Deposit Asked

C. L. Adler, Pres.,
Adler Mfg. Co.,
5413 W. Chestnut St. Louisville, Ky.

Send me—FREE—your wonderful
Organ Book ☐ } Mark which
Piano Book ☐ } you desire.

NAME .....

ADDRESS .....

The steer calves and spayed heifers are put into the feed lots in the fall, and fed so that they will be in prime condition to market when they will weigh from 1,000 to 1,100 pounds, and be just the kind of cattle most in demand at that season. By continuing the grain ration along with the pasture grass during the spring and early summer, it is possible to secure a better finish than is possible under any other system of feeding. The rations fed during the winter and spring consist of all the corn they will eat and, from four to five pounds daily of oats and cottonseed meal, and about 10 pounds of corn silage. They eat nearly one peck of corn apiece daily.

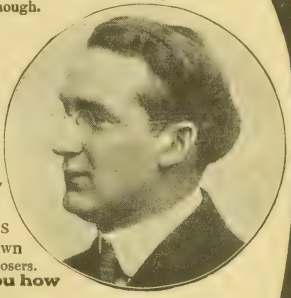
Can these conditions be approximated on other cornbelt farms? They can, and in many instances improved upon with every little extra expense.

The real and only secret of securing the quick growth of the young stock is that of eliminating any periods of light feeding that only add to the cost of finishing the product. The whole theory of making beef from these young calves is that two calves will eat no more than one older steer and make double the gain. The two young animals will give better gains for the amount of food consumed, and in addition they will eat larger quantities of roughage and turn it to more profitable account than the older steer.

Tells Why Chicks Die

I AM the poultry expert. My knowledge means dollars to **you.** My free book contains information that will enable you to **save every chick.** The great plague, "White Diarrhoea," may overtake your baby chicks any hour. It msy steal the whole hatch in a single night. My free book tell you how to save every chick. Write for the book today. It's free. The coupon is enough.

Last Year I Saved 2,000,000 Baby Chicks



I have spent my life in the study of the poultry business. My free book will tell you about the exhaustive experiments I have made in order to find a cure for White Diarrhoea. Write for my book today and learn how to save your chicks—the same way that the book saved 2,000,000 baby chicks for other people last year.

Every chick means more money to you. Thousands and thousands of dollars in poultry profits are being thrown away each year because the baby chicks die. Don't be one of the losers. Send your name on the coupon now, and get my book. **It tells you how to save every baby chick.**

FREE

Book Tells Why Chicks Die

By simply sending me your name and address on the coupon, I will send you absolutely free and prepaid, my new poultry book, "Reefers Baby Chick Book." You should have this book. You can get it now—without paying a single penny—without any obligation. Your name and address on the coupon is enough.

Send the Coupon

Tear off and mail coupon now. Simply put your name and address on the coupon, or a post card now and get my free book. The book is free—absolutely free. But you must hurry. The supply of books is limited—and you want the book for your own sake. Your chicks may get White Diarrhoea tomorrow. Now is the time to act. Send the coupon immediately. Tomorrow may be too late.

E. J. Reefer, the Poultry Expert,
3562 Reefer Building, Kansas City, Mo.

E. J. Reefer, the Poultry Expert,
3562 Reefer Building, Kansas City, Mo.

Dear Sir:—Please send me free and prepaid, "Reefer's Baby Chick Book."

Name .....

Address .....

FREE TO THE RUPTURED

5000 Sufferers to Get Free Trial Plapao

No Need To Go Through Life Wearing a Useless Truss

This **generous offer** is made by the inventor of a wonderful **"all-day-and-night"** working method which is to be used to **tone up** and **strengthen** the relaxed muscles, thereafter **doing away with painful trusses altogether**, and the necessity for **dangerous** operations.

NOTHING TO PAY

To the extent of 5,000 sufferers who may apply- Mr. Stuart will send a sufficient quantity of **Plapao without charge** to enable you to give it a thorough test. You **pay nothing** for this trial of **Plapao, now, or ever.**

STOP USING A TRUSS

Yes, **stop it**, you **know** by your own experience it is only a makeshift, a false prop against a collapsing wall, and that it is undermining your health because it tends to retard the circulation of the blood. Why, then, continue to wear it? Here is a better way, which you can now **prove** for yourself, free of charge.

USED FOR A DOUBLE PURPOSE

First. The primary and **most important** object of the PLAPAO-PADS is to keep **constantly applied** to the relaxed muscle the medication called **Plapao**, which is **contractive** in nature, and taken **together** with the ingredients in the medicated mass is intended to **increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second. Being made self-adhesive, **purposely** to **prevent** the **pad** from **shifting,** they **have** therefore proven to **be** an **important adjunct** in retaining rupture that **cannot** be held by a truss.

Hundreds of people **old** and **young,** have gone before an **officer qualified to acknowledge oaths,** and **swore** that the PLAPAO-PADS **cured** their rupture—some of them most **aggravated** cases—and of **long** standing.

CONTINUOUS NIGHT-AND-DAY ACTION

A **striking feature** of the Plapao-Pad treatment is the comparatively **short** time it takes to get **results.**

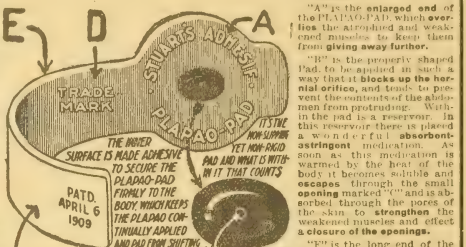
This because the action is **continuous**—night and day, throughout the **whole** of the 24 hours.

There is **no** inconvenience, **no** discomfort, **no** pain. Yet **minute** after **minute**—whilst you are going **about your daily duties**—even while **you are sleeping**—this wonderful remedy is invisibly **infusing** abdominal muscles with the **new life and strength** they **require** to perform their rightful function of **keeping the bowels** in place without the **artificial** support of a truss or device of any kind.

THE PLAPAO-PAD EXPLAINED

The **principle** upon which the **Plapao-Pad works** can be easily figured out by noting the accompanying illustration, and **reading** the following explanation:

The PLAPAO-PAD is made of a **strong flexible material** "E," which is designed to conform to the movements of the body, and be **perfectly comfortable** to wear. Its inside surface is **adhesive** (similar to, yet **quite different** from an adhesive plaster)—**to prevent** the Pad "F" from **shifting** and **getting out of place.**



"A" is the **enlarged end** of the PLAPAO-PAD which **overlies** the atrophied and weakened muscles to keep them from **giving away further.**

"B" is the properly shaped Pad, to be applied in such a way that it **blocks up the hernial orifice,** and tends to prevent the contents of the abdomen from protruding. Within the pad is a reservoir, in this reservoir there is placed a wonderful **absorbent-astringent** medication. As soon as this medication is warmed by the heat of the body it becomes soluble and **escapes** through the small **opening** marked "C" and is absorbed through the pores of the skin to **strengthen** the weakened muscles and effect **a closure of the openings.**

"F" is the long end of the PLAPAO-PAD which is to be plastered over the hipbones—part of the frame-work of the body, calculated to give the necessary **solidity and support** to the PLAPAO-PAD.

BRINGS ABOUT THESE BENEFITS

Send no money. **I want to prove** to you at **my own expense** that you **can** conquer your rupture.

When the weak muscles recover their strength and elasticity—And the unsightly, painful, dangerous protrusions disappear—And that horrible "dragging down" sensation is banished never to return—

And you recover your vigor, vitality, energy, strength—And you feel, and feel better in every way and your friends remark about your improved appearance—

Then you'll know your rupture is conquered—and you'll sincerely thank me for urging you so strongly to accept, NOW, this wonderful free trial, And "FREE" means **FREE**—this is no "C. O. D." or "sent on trial" scheme.

Send Today for Free Trial

Make a **personal** test of its value. **Send no money,** for the Free Trial Plapao costs you **nothing, yet it may bring** you a **Health-Restoration** more precious than **much fine gold. Accept this Free "Trial" today** and you will be glad you took advantage of this opportunity as long as you live. Learn how to close the hernial opening as nature intended, so the rupture **can't** come down. Write a postal card or fill out the coupon **today,** and by **return mail** you will receive the **free trial Plapao,** with a **presentation** copy of Mr. Stuart's 48-page book on rupture, containing full information regarding the method which was **awarded a Diploma with Gold Medal at Rome, and a Diploma with Grand Prix at Paris,** which should be in the hands of every sufferer of this dreadful affliction. If you have some friend who is ruptured, tell him about this great offer.

5,000 readers can obtain this free treatment. The **response** is **certain** to be enormous. To avoid disappointment write NOW.

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Cuty and Her Baby 12c

Cuty is 17 inches tall and her baby is 6½ inches tall; they are the finest playmates any little tot could wish for. The limbs are moveable and they can't be broken. You can bend them around and drop them without breaking. Cuty and her baby come on one sheet of heavy cloth, stamped by hand in beautiful colors, ready to embroider, sew up and stuff; so simple, anyone can do it in ten minutes' time. Thousands of little ones all over the country have been made happy with Cuty and her baby. We will send you Cuty and her baby for only 12c without subscription. Or for 25c to pay for a year's subscription, we will send doll outfit free as a premium. **HOUSEHOLD GUEST, Cuty Dept. 16, 560 N. La Salle St., Chicago**

How many boys and girls want a pony? Look u pthe excellent chance to get one on Page 41.

Spring Orchard Spraying

(Continued from Page 8)

winged fly. Under ordinary conditions these predaceous insects would keep the aphis within bounds, and we would not know that we had any pest of this kind. The harmful insects winter over in the egg state, while the predaceous ones hibernate in the ground or under some protection. In this way they are tempted to come out prematurely and are nipped at the close of the first open spell in early spring.

Orchardists have been at a loss to know how most effectively to fight the aphis. B. J. Case of Sodus, N. Y., an extensive and most practical grower, says: "I have done a lot of experimenting to clean my trees of these lice, but never yet have I been convinced after the spraying season was over that I did any good. The reason has been that the lice curled up the leaves so that it is almost impossible to kill all of them. Any spray that would kill the lice would kill the good insects, so that I was doing really more damage than good. We are in hopes that someone will find a spraying material that will kill the eggs on the trees before the lady bugs and other good insects put in an appearance with spring."

The tent caterpillars sometimes make bad work in orchards. The caterpillar lays its eggs in the fall on the high twigs. As spring advances the eggs hatch into worms. The worms crawl down, leaving a web behind them, until they come to a crotch. There they spin a tent. They feed on the foliage, and sometimes, when badly infested, they will take the foliage off the trees completely.

The spraying solution should be two pounds of arsenate of lead in fifty gallons of water, applied before the bloom.

The green fruit worm belongs to the leaf roller family. It is a light green worm, and its most serious damage is that it eats holes in the young apples. The remedy is to keep the leaves and fruit covered with arsenate of lead.

The curculio sometimes does serious damage to the apples. This is a small bug with a hard shell about the size of a kernel of wheat. The female lays her egg under the skin of the fruit. A hard knot is here formed which stops the fruit at that point from growing. The remedy is arsenate of lead, two pounds to fifty gallons of water, before the bloom and again after the bloom.

The blister mite is another insect that apparently is causing much serious damage in orchards. This is a tiny insect requiring a magnifying glass to be seen. It works between the two linings of the leaf, and will show in rough, buff-colored blotches on the under sides of the leaves. This insect has been so numerous at times as to commence to take the foliage off the trees in August, causing the trees to be stripped of foliage before any freezing weather appeared. This is very unhealthy for the trees, as it hinders the development of fruit buds for the next year. The remedy is lime and sulphur, one gallon of it that will show a Baume test of 33, to ten gallons of water, applied early in the spring, just as the leaf buds are breaking; but one must be through spraying before the leaves are the size of one's finger nails for at that strength it would hurt the foliage.

WANTED -To hear from owner of good farm of unimproved land for sale. **H. L. DOWNING, 193 Palace Bldg., Minneapolis, Minn.**

WOMEN MAKE MONEY introducing **Priscilla Fabrics, Petticoats, Dresses, Hosiery, Etc.,** in spare time. Beautiful samples furnished. New **plan.** FITZCHARLES CO., Dept. 108, TRENTON, N. J.

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Write WAGNER, 1243 Lexington Ave., New York, Dept. 244

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12 Apple Trees

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The most delightful place on the whole farm is the apple orchard, whether it is in full bloom or laden with ripened fruit. You should not neglect to plant new trees almost yearly. Use the vacant spaces. We propose to send you twelve good, hardy, grafted apple trees, three each of the following varieties:

Winesap, Jonathan, Stayman, Delicious and Wealthy—four of the most noted varieties of quality.

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Send your order today. We have plenty of stock to fill all orders, and the time is now.

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FARM NEWS, Springfield, Ohio:

I enclose $1.00. Send FARM NEWS four years and twelve apple trees as described above to me, prepaid.

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175 Page Poultry Book
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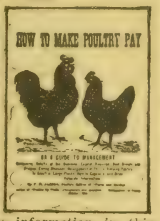

This book is neatly printed on good paper and well illustrated. Contains descriptions of the different varieties of fowls, with complete instructions for raising all kinds of poultry, curing diseases, caponizing, artificial incubation, how to build poultry houses, advice to beginners, etc. Every poultry raiser needs this book, just as much as a school boy needs text-books. There is information in this big volume that is worth a great many dollars to any person engaged in or about to become engaged in the business of raising poultry.

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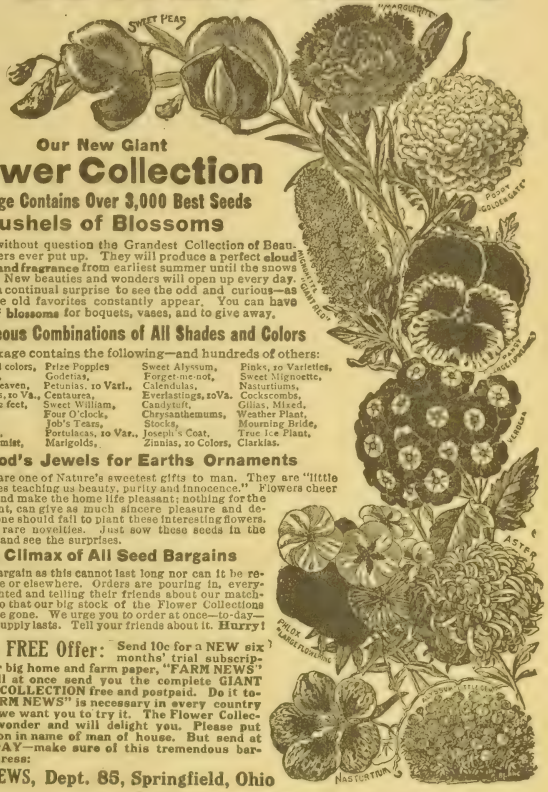

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Calliopsis,	Four O'clock,	Chrysanthemums,	Weather Plant,
Salvias,	Job's Tears,	Stocks,	Mourning Bride,
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Flowers are one of Nature's sweetest gifts to man. They are "little missionaries teaching us beauty, purity and innocence." Flowers cheer the heart and make the home life pleasant; nothing for the money spent, can give as much sincere pleasure and delight. No one should fail to plant these interesting flowers. Many are rare novelties. Just sow these seeds in the flower bed and see the surprises.

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At Our Risk. Then if pleased you can keep it and pay only a little each month out of your extra cream profits until the machine is paid for. In this way the separator itself will earn its own cost—and more before you pay. You won't feel the cost at all. If you do not need a large capacity machine you can obtain a smaller one on payments as low as

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COLLEGE OF AGRICULTURE
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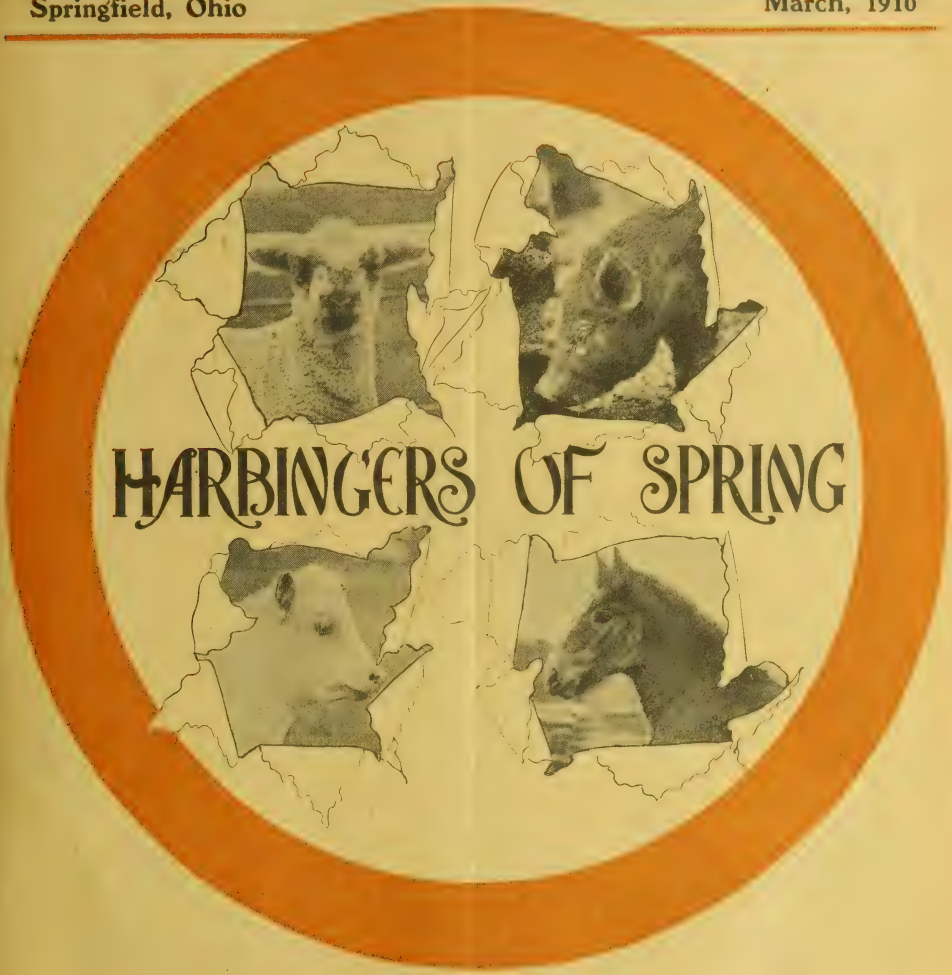
FARM NEWS

All That is New and Best For the Farmer

Springfield, Ohio March, 1916



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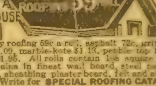

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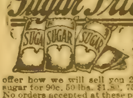

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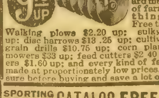

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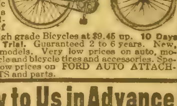

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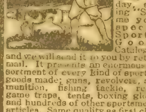

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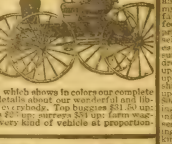

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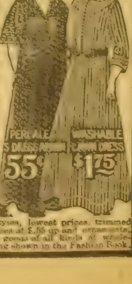

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Volume XXXVI **MARCH 1916** **Number 3**

FOR YOUR PERUSAL AND PROFIT

A Page Full of Profitable Opportunities For Our Readers

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One of the most valuable things on your place is your apple orchard. Once the trees are planted, the luscious fruit blossoms, matures and ripens, practically without labor and attention.

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Send your order today. We have plenty of stock to fill all orders, and the time is now. Address—
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MONEY FOR THE HOUSEWIFE

Here's a query which can only be answered by the housewife, and it is one we would like to find out about. Do farm women sell their lard and use substitutes? If not, why do they not? The products of the dairy are disposed of to the creameries, and butter is purchased for family use.

There are now on the market some products which may be used as a substitute for lard. It is claimed for these that they are just as good for the purpose, in many cases cleaner and more sanitary, are made from vegetable products, and are much healthier and easier to digest than lard. We would like our farm women to tell us just how they feel about using such a substitute. Give logical reasons, not founded upon prejudice, but upon conditions.

We will pay for all answers used. Send contributions to Housewife Department, Farm News, Springfield, Ohio.

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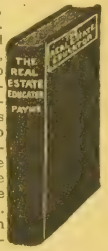
THE REAL ESTATE EDUCATOR



Containing inside information not generally known, "Don'ts" in Real Estate, "Pointers," Specific Legal Forms, for Sale, Exchange, Building and Suretyship Contracts, Bonds, Mortgages, Powers of Attorney, Leases, Landlord's Agreements, Notice to Quit, Deeds, Chattel Mortgages, etc. It gives in the most condensed form, the essential Knowledge of the Real Estate Business. Workmen's Compensation Act, Income Tax Law, Employer's Liability Act, Statute of Frauds, How to Sell Real Estate, How to Become a Notary Public, or Commissioner of Deeds, and other Useful Information. This book is an inspiration to the indifferent and a stimulus to the ambitious. Apart from the agent, operator or contractor, there is much to be found in its contents that will prove of great value to all who wish to be posted on Valuation, Contracts, Mortgages, Leases, Evictions, etc. 256 pages, bound in cloth. The cost might be saved five hundred times over in one transaction.

Our Editor truly believes that every farmer should fortify himself with a copy of this valuable book. We know that thousands will take advantage of this offer, so we have arranged for a very large edition. You can have a copy free if you will send us $1.00 to pay for a five-year subscription to FARM NEWS.

"OLD OPPORTUNITY" KNOCKS AT YOUR DOOR

FARM NEWS for this issue might well be called the Farm Paper of Opportunity, for its columns are full of Money-making and Money-saving opportunities which are given to our readers, in both its editorial and advertising columns. Our popular Cash-Prize contest in General Farm Work and in Poultry-Raising are most liberal. In each of these contests we give $10.00 in Cash Prizes each month—$5.00 for what we consider the best contribution to each one, $3.00 for the next, and $1.00 for each other one used. Then you will hardly want to miss the opportunities which are offered by our Circulation Department. First in importance and Cash Value is the Music-Titles-Picture-game, on Page 24. This is the Big $5,000.00 Cash Prize Contest, the First Prize being $1,500.00, and the balance of 502 prizes ranging from $750 to $2.50. There are no prohibitive conditions—everything is made easy for those who want to get into this game. There's the Automobile Contest on Page 37, in which we offer a Handsome 5-passenger Overland car, fully equipped with electric starter and lights. The chances are that this car will go to whoever wins it for an effort which will not in any possible way equal its value. This will be a snap for some one. Why not you? And we are going to give away another motorcycle. Look this up on Page 34. The children also have their Opportunity to help us out in our circulation work. On Page 29 they will find the announcement of another of our liberal Pony Outfit prizes. This includes Pony, Carriage, Harness, Saddle and Bridle—an outfit easily worth $250.00—all to be had for such a small amount of effort as to be astounding. Pick out the contest that suits you best and start out to win the prize you want. We will help you all we can.

THE LIGHT FARM TRACTOR BY H. A. BEREMAN

The truth about the light farm tractor, the one that will do the work on small farms, at a cost which will prove economical, is, in the tractor's stage of development, hard to obtain. Mr. Bereman, after interviewing more than thirty manufacturers, found none who would claim that his machine would fill the bill under all conditions. There are numerous farms upon which the tractor can be operated at a profit, and its many uses is sure to win favor with the farmer whose conditions are favorable.

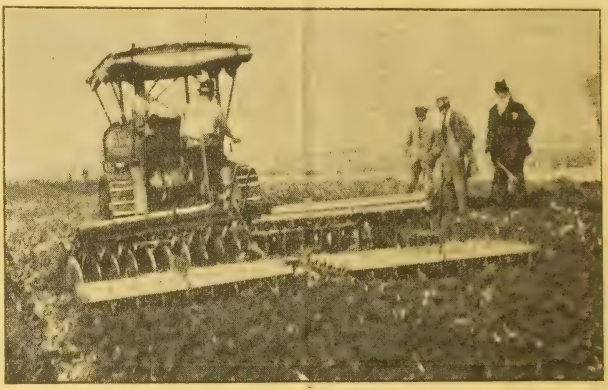
FARMING is a lively job—there is always something doing—land to be plowed, seed to sow, harvests to gather, grain to market silage to cut—always work, work, work. But the farm is a place for work, and happy is the man who has found good helpers.

The up-to-date farmer uses his own muscle, hired hands, horses and mechanical power. The idea is to use the most efficient power obtainable for every piece of work. No farmer with the implements of the past can compete with the men who use the machinery of the present. If he tries he will eat dust in the tail-end of the procession as surely as he who undertakes to compete with the railroad by hauling freight with an ox team.

Corn, oats and hay are cheaper power-fuel than meat and bread and potatoes. This is but one reason why horses are superior to human labor for field and road work. That mechanical power is superior to horse-flesh for heavy work on large farms is unquestioned; just where to draw the line is not so certain. As there is a kind of boom on right now in the development of the small tractor, the experience of the writer, who has personally investigated the merits of forty or more different makes, may help a brother farmer solve his power problem.

Which is the best? This thought probably is uppermost in the mind of every practical man who attends a fair or tractor demonstration. All I can say is that the small tractor is in the process of evolution. In all my interviews—and I have talked with over thirty manufacturers—I have not found one who claimed that he had a perfect machine. I should say that the tractor is about where the automobile was five years ago. Today the auto is standardized—every one knows the essentials—what must go into a satisfactory machine and what general type is trustworthy.

Roughly speaking, a tractor consists of a frame on wheels propelled by a gas engine that is connected by gears with a drive wheel. Speaking less roughly, it has nine separate units; motor, clutch, transmission, frame, wheels, fuel supply system, ignition system, oiling system and cooling system. The person who understands the function and operation of each of these units will have no very great difficulty in getting at the trueinwardness of the whole machine. Next, what can a tractor do? Not as an experiment, but as a matter of dollar-saving on business farms, the tractor has been used for plowing, disking, harrowing, seeding, cultivating, mowing, raking, harvesting, orchard work, road making—all farm work formerly done by horses, and before that by hand. The tractor will pull one or more loaded wagons along a road as a locomotive draws a train of cars. It will deliver power at the belt for threshing, silage cutting, wood sawing, pumping water, grinding feed, cream separating, churning and electric lighting.



Showing the possibilities of a farm tracter at a time when every minute counts. It suffers no fatigue, and may be kept on the job continuously

Next, will the tractor do ordinary farm work as economically as horses? A comparison of costs shows that with corn and hay at current prices, and gasoline at eight cents a gallon, the well-built tractor will do all the above stunts for less money than can be done by horses. The investment in each source of power, and its probable length of life are about the same. In this respect the advantage lies with the machine, which yearly follows the trail of the auto in cheapness, while horses are growing more expensive. Aside from this and other incidental advantages, the big item is the difference in cost of power-fuel — petroleum being cheaper than horse-feed.

As population multiplies, the value of foodstuffs rises, so that rations for work stock will never be cheaper, and probably dearer. Formerly but ten per cent of crude petroleum was made into gasoline, but a new process now extracts forty per cent, and it may be that gasoline will be cheaper than ever. Experiments are being carried on to increase this percentage. Who shall say that in five years—possibly day after tomorrow—the men of the test-tube may not invent a distilling and refining process that will get sixty, seventy or even eighty per cent of gasoline from petroleum?

One of the benefits of the tractor is the tendency towards high-pressure farming, which means more efficient use of human labor—the most expensive item on the farm. By driving eight horses instead of two, a man can do four times the work; a compact traction engine is more easily handled than its equivalent in horses.

Another point is that metal does not have to be coddled as does a creature of flesh and blood. Two shifts of men can keep the tractor going day and night if necessary, but a horse can work only ten hours a day. The tractor does not have to be favored in hot weather. A dead horse cannot be fixed with a monkey-wrench—he is a total loss. A machine can be overhauled and made as good as new by replacing wornout parts. Every lad likes to run machinery, and the tractor has a great future in making farm work attractive.

(Continued on Page 38.)

MANAGING THE CORN CROP BY L. J. MEREDITH

We are pleased to be able to furnish our readers what we consider one of the most comprehensive articles on Managing the Corn Crop we have ever seen in any agricultural publication. The writer, Lester J. Meredith, is a man or broad, practical experience, and what he has to say on the subject is of intense practical value. His suggestions as to fertilizing constituents are given as the result of experience, and will bring results just as stated. The work of preparation, from testing the seed to having all of the implements ready, is thoroly covered in a way that all can understand.

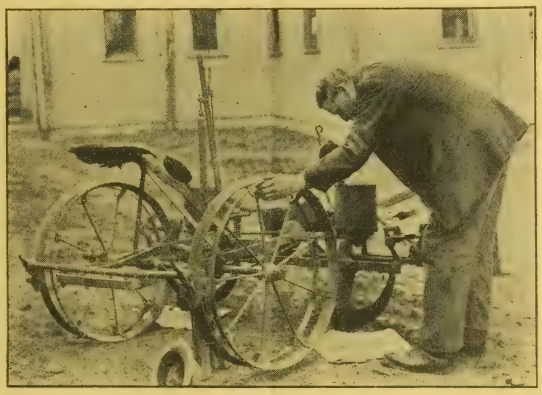
PREPARING the field for planting corn consists in fertilizing, plowing and harrowing. This improves the physical conditions of soils and hastens the. availability of plantfood. The plant needs suitable surroundings and an abundant supply of food as well as the animal; a soil in which the roots may reach out in search of nitrogen to bottle up sunshine in the green coloring matter of the leaves, phosphorus to stimulate grain development and potassium to stiffen the stalks. Corn plants, like animals, become thin if they are starved. Variety is also relished by plants as well as by animals, and the only way to find out what they want is to test them like animals.

The deficiencies of a particular soil can easily be discovered by giving the fields a different combination of fertilizers. The plants will tell their needs if they are given a chance, but they have to do the best they can on what is given them, and the neglect to supply the one limiting element of fertility has been the cause of more unprofitable yields of corn than any other one thing. Thus to become an experimenter in a small way, is the only way to find out which element of fertility is the limiting factor in crop-production. One's soil may need a complete fertilizer, but the chances are two to one that one or more of the essential plant foods are already in the soil in almost unlimited amounts.

Sometimes the limiting element is phosphorus. No matter how much nitrogen you have, no matter how much potassium you have, if the soil is destitute of phosphorus, or deficient in it, you cannot grow a full crop of good sound corn. If, after experience and experimentation you find that phosphorus is the limiting factor, then apply fine ground phosphoric rock, or acid phosphate. If the soil is deficient in humus and nitrogen, then plow under manure and green manure crops, and use a fertilizer rich in nitrogen. If you have a muck or a peaty soil and find that corn will not grow, that stalk is weak, then you need potassium. Careful study and a few field tests will enable one to supply the deficient element in the soil in sufficient amounts to produce a maximum crop.

The soil in which the corn is to be planted must be fine in texture and thoroughly pulverized, so that the plant roots will have no trouble in finding moisture and plantfood when they begin to take possession of the soil. Not only must the surface soil present ideal conditions for the plants to start into growth, but the capillary connections with the soil below must be established, or else the soil will not be benefitted by cultivation. Too often lumps, trash, manure and straw between the surface soil and subsoil become an actual detriment to the crop.

In many cases disking the field to cut up the stubble, weed refuse and manure, a few days before plowing will prevent the loss of moisture, and hasten the germination of weed seeds, so that when they are turned under they will be destroyed. With a disk harrow one can chop up organic matter, and get it worked into the soil in such a way as not to interfere with the capillary connections between the surface and subsoil. On a moderately loose soil, which is not covered with a great amount of organic matter, the best practice will perhaps be to break up the crust by disking once. This will check evaporation and mix the organic matter sufficiently to insure ideal conditions in the bottom of the furrow. On a firm soil that is covered with a thick layer of organic matter, it will perhaps be best to double-disk by lapping the harrow half or by cross-disking a second time. On many farms the rush of spring work becomes so great that some of the land intended for corn must be left for late plowing. If such land is cut over thoroughly with a disk it will prevent the loss of moisture and make possible the preparation of an ideal seed-bed on the later-plowed land.



This form of preparation is amply repaid in a full, even stand of corn

As a general proposition early plowing is preferable, because it helps to decompose the organic matter, and make available quite an amount of plantfood to promote the early growth of the corn plants. The depth of plowing for corn seems to be a debatable point, but in general farm practice those men who plow deep are securing the most satisfactory crops. If land has been disked previous to the breaking it will usually plow considerably easier, and a deeper plowing can be accomplished without a noticeable increase in the draft. As a general rule, ordinary corn ground should be plowed from 6 to 8 inches deep.

The preparation of the seed-bed for corn should begin as soon as possible after the ground is plowed. Harrowing as quickly as possible prevents clods from forming that nothing but a heavy rain can disintegrate. This early work is the most economical, because all tests and experience show that one thoro harrowing just after the ground is plowed is equal to two a week or ten days later. In some seasons this one harrowing will be sufficient until the final fitting just previous to planting. During ordinary seasons the harrowing should be frequent enough to destroy small weeds and preserve an effective mulch. Inasmuch as a thoro harrowing before planting is as good as one cultivation after planting, it should not be spared in the final preparation of the seed-bed, keeping the ground in shape from the time it is broken until the corn is planted.

The time to start the planter is when the ground is properly prepared—never before. Preparedness is of first impor-

(Continued on Page 30)

"WATCH AND SPRAY"

Slogan of the Orchardist Which Brings the Big Luscious Fruit Free From Blemish

By Alvah H. Pulver

ONE of the most serious drawbacks to apple-growing today, in all sections of the country, comes from what is known as apple fungus or apple scab. This is a fungus growth, and on the apples is carried over the winter by what is known as winter spores, that are fast to the leaves on the ground.

It was thought for many years that the fungus was carried over on the twigs, but Profesor Whitzell, the plant pathologist at Cornell University, discovered that they were not on the twigs, but on the leaves under the trees, and that all that they needed was warmth and moisture, when these spores would swell up and burst. They bursted with sufficient power as to shoot the summer spores into the air, and this most always occurred during the bloom, so that the first infection was on the delicate stems of the embryo apples and on the under leaves. Unless controlled, the fungus is sure to give all sorts of trouble to every grower, once it has made its appearance.

It was in 1910 that Professor Whitzell established a field laboratory at the Case farm, in Sodus, N. Y., to carry out in actual field test the results of his laboratory work of the year previous on the scab. That year a number of Sodus growers cooperated with the expert in spraying the apple and pear trees with lime and sulphur, just at the point when the embryo apples had separated in the bud, but before the blossoms opened, at such time so that the delicate stems could be covered with the mixture. Trees sprayed in this way had to be thinned in order to save the trees later, while growers who sprayed before the embryo apples had separated in the bud had a very light crop, this being a bad year for the scab.

For many years leading fruit-growers had taught that if we had much rain during the blossoming period, and if our apples did not set, or even if they grew to the size of marbles or walnuts, and dropped off, that the trouble had been that the blossoms had not been fertilized, the pollen not being distributed. We do not believe that today. For instance, if we go closely into the matter, we know that each blossom usually has five pistils, which are in the center, one running to each embryo seed. They are surrounded by the stamens, all of which is surrounded by the blossom leaves. What is claimed today is that we only need two, three or four hours of fairly good weather with a fair breeze blowing the blossom leaves against the stamens and over the pistils to fertilize the apple.

There are usually ten days, at least, when this can be done, not ten days when any one blossom is ready to be fertilized, but ten days when any apple tree has blossoms on it that are ready to be fertilized, and if one blossom in twenty is fertilized there will be enough for a crop. Wet weather has been a primary cause just the same, but it has come another way. It has developed the fungus on the leaves on the ground, so that they have burst and have thrown their summer spores into the air to lodge on the delicate stems of these embryo apples, and their rootlets in growing have checked the sap, so that it could not flow to the apples, in many cases when the apples were as large as walnuts.

In the opinion of some growers this has been the case many times when apples have not set as they should have when there has been a heavy bloom. The fungus that starts at this time soon develops more summer spores, and spreads to the newly formed leaves and to the apples. Where it becomes attached to the apple, and the rootlets get a good hold, it will stop the apple growing at that point, and many times it will open up in cracks, and make the apple practically worthless. If the roots penetrate to the seeds, which are the life of the apple, it will loosen and drop to the ground. Sometimes there is a late infection of the apple scab which does not show until about the time the fruit is gathered, and sometimes cannot then be seen, as the spots have not developed sufficiently.

When such apples are put into storage in barrels, and commence to sweat, the moisture arising makes ideal conditions for the fungus to grow and when we come to open our barrels later, we find them all covered with the fungus which we did not suppose was there. This is why, as has been said before, the apple fungus is one of the most serious menaces that confronts the grower. However, it is fairly easy to control if sprayed with the proper material at the proper time.

An equipment for large spraying operations

The most important spray to control the fungus is lime and sulphur, one gallon that will show a Baume test of thirty-three to forty gallons of water. This is to be applied very thoroly as soon as the apples have separated in the bud, but before the blossom opens so that the stems can be covered. Another application of the same strength should be applied with the spray for the codling moth, after the blossoms have fallen, but before the calyx end of the apple closes. Another spray should be put on of the same strength about August first.

The solutions used in spraying have varied greatly in the last twenty years until now a common acceptance has ranked lime and sulphur as one, if not the most essential, solution needed by the orchardist. As a fungicide it has outranked all others as the most effective remedy in the control of fungus diseases. There are many firms now making brands of lime and sulphur in concentrated form. The standard test is that it will show a Baume test of 33. A great many of the fruit growers are making and using their own concentrated lime and sulphur. This is very easily done with an ordinary cauldron

Trees are well pruned and all cuttings cleaned up—not a bit of sod or other growth in orchard

kettle that will hold about 75 gallons, but made in this way the main objection is that they cannot make an even product.

While they can make a product that will show a Baume test of 30 to 31 most of the time, the product by analysis would show that the amount of sulphides in the mixture would vary greatly, and the percentage of sulphides would determine its effectiveness in controlling the fungus.

Lime and sulphur were first used as a remedy for San Jose scale, and only quite recently has it come into use as a fungicide. Then it was discovered that at weaker strength it could be used on the foliage without damage. Today lime and sulphur stands supreme, with arsenate of lead, as the two solutions universally used thruout the great apple belt of New York state.

The two families of the aphis and the red bug are the exceptions to the sway of these two sprays. Without taking dangerous chances with the foliage, these mixtures cannot be successfully used on any of the sucking insects. When these pests are finally subdued it must be by some spray that will kill the aphis by merely hitting them, as the aphis do not eat, but suck the sap from the leaves and from the fruit.

For a number of years it was contended by horticultural experts that arsenate of lead could not be mixed with lime and sulphur, as it produced a chemical action that would disintegrate and settle to the bottom in the spraying tanks. Some of the more determined fruit-growers experimented on their own account in this matter, and they found that they could do effective work with the combined mixture if it was not allowed to stand around for two or three hours after, but was kept thoroly agitated and sprayed as soon as mixed. This resultant spray from mixing the two leading ones has been found highly efficient, and likely to stand the test for some time to come.

There are a good many spraying machines on the market, the great majority of which have merit. The all-important thing is to have, if using power, an engine that is reliable, a pump that has valves which can be easily taken out and cleaned, and an agitator that will keep the mixture thoroly agitated all the time. Some of these machines are built very cheap and are sold cheap, but still do fairly good work. It is also necessary that these machines have a reliable safety valve, that will indicate the pressure, so that it is uniform, whether the nozzles are turned off or not. There are a good many makes of nozzles, but the best ones are those easily cleaned and capable of throwing a very fine spray. A great point in spraying is to be able to cover every part of the tree, so that every limb and twig has a light covering, but still not enough to drench the tree so that it drips.

The engine should have enough power so that the pressure on the nozzles can be held up close to two hundred pounds, and still throw a large volume of mixture, enabling the work to be done rapidly.

There are a good many hand sprayers made, in which the power is furnished by a hand pump. These do very good work, but, of course, cannot do as much of it as a power sprayer.

Thoro pruning must be done before any spraying is attempted. No tree which has many dead limbs, or is full of bushy and scrambling branches, can be successfully sprayed. Where power outfits are used ample room should be provided for the passage of the rig and space for the men to work. Dead limbs should always be removed, thus removing one of the chief harbors of insects. The more experienced operators plan to spray with a light wind, so that the solution may be gently carried thru the trees. When the wind is in the opposite direction the trees are again sprayed from the other side. The solution is most effective when applied on days that will permit of quick drying.

No accumulation of dead limbs, brush, dried-up fruit and other refuse, should be permitted in the orchard. It is from such sources that much of the good work of spraying is nullified.

While not intended to supplant the accepted system of spraying as now used by progressive growers everywhere, not at least for the next few years to come, the new "dusting method" of applying insecticides and fungicides to trees and vines is holding the attention of horticultural experts. Professor Crosby, of Cornell University, has given some study to this method of dry spraying, and believes the system entirely practical, and as efficient as the liquid method. It is claimed by some that one thousand apple trees a day is no difficult job for two men, one horse and a dusting rig, the equivalent equipment and time by the liquid system being three men, one team and four days' time. However, at the present time the results are yet too meager to furnish an exhaustive commending article. It is possible that later a full exposition of the system will be made in these columns.

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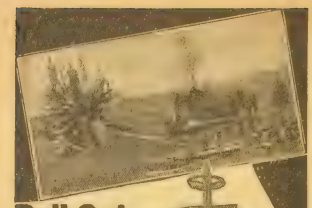

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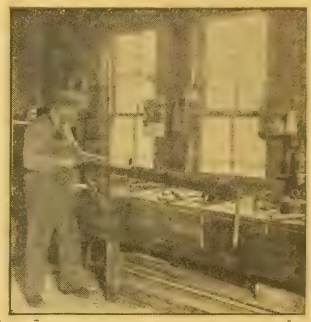
The Farm Workshop

One of the Most Valuable Units in the Working Organization of an Up-to-Date Farm

By W. F. Purdue

THERE is a legitimate place on every farm for a workshop. The work of the farm differs quite materially from the work of residents of the cities, in that the weather conditions from day to day are a great factor in determining what can be done. In order, therefore, that there shall be no undue loss of time, we think provision should be made to have a properly equipped shop, where the inclement days can be utilized in doing needful things for the advancement of the general farm operations.

During the winter the farm machinery can be overhauled and put in first-class shape for the coming season's work. Then there are so many breaks little and big—happening to the farm tools all during the busy season that, in the absence of a workshop and tools for making at once all minor repairs at least, much valuable time may be lost in going to some distant shop. The fact that the workshop, when it contains a good assortment of tools, will enable the farmer and his sons to make many useful and practical things to lighten labor about the home and farm, or to improve the appearance of the premises, is another reason for its establishment. There is no end to the work that can be done in the shop when it is impossible to work outside.



The chief rainy-day attraction on the farm should be the workshop

In the beginning it is likely that one end of a tool shed or a corner in the barn may be converted into a workshop. If one is fairly proficient with all kinds of tools, and desires to build and equip an up-to-date shop, it should be large enough to admit a buggy or wagon, have double doors in one end, and be well lighted. Build a flue, so a stove can be used in winter. If a forge is to be set up in the shop, the floor should be of natural earth, cinders or concrete. On the side of the building where the workbench is to be placed, construct a two-sash window, sliding horizontally. This will give good ventilation in summer and will light up the workbench almost its entire length on dark days.

The work bench ought to be ten or twelve feet in length and two or more in width, the top being constructed of two-and three-inch lumber, so one can hammer on it without jarring everything off of it. Four legs, braced rigidly, of 2x4-inch stuff are required. Near one end of the bench attach a good steel vise with four or five-inch jaws, and near the other end a post drill may be attached. Beneath the bench compartments for keeping tools and materials may be constructed. The drawers should be two feet or more in width, six inches deep, and extend back as far as the bench, so that saws, planes, etc., may be deposited in the compartments. Next to the drawers a number of pigeon holes six to eight inches square will come in handy for storing nuts, bolts and odds and ends of material. Above the bench may be leather loops and nails to hold the tools that are used nearly every day.

Nearly every farmer has most of the leading common tools, and as the range of work widens and experience increases, it will be found that certain other tools and appliance are demanded. By buying just a few tools from time to time, a large equipment will soon be on hand. It is not advisable to get complete collections of tools, such as are frequently advertised, but consult manufacturer's or mail order dealer's catalogs, and then pick out just what you need. A small, well selected outfit, used to the best advantage and well cared for, will prove more satisfactory than a large miscellaneous assortment improperly kept and used. Always get the best, if only a few. Eventually the workshop should contain all the tools and materials for keeping the buildings, fences, implements, vehicles, and all appliances used in the more important farming operations in good working order. The farmer should be able to work in both wood and iron, and also to do work of a repair nature on harness, shoes, etc.

For woodworking the following tools are essential: Two 26-inch saws, handsaw and ripsaw; keyhole saw; bit-stock and an assortment of bits; chisels, different sizes; steel square; claw hammer; jack plane and smoothing plane; drawing knife; hand ax or hatchet; spirit level; screw drivers; mallet; wire pliers; staple puller; folding rule; chalk line and ball of chalk; oil can; pair of trestles, or saw-horses, four feet long.

For ordinary blacksmith work, one needs the following tools: Post drill and set of bits; adjustable hack-saw frame and at least six blades; set of files, consisting of flat, half-round, rat-tail and saw file; several cold chisels; wrenches of various kinds, including an alligator wrench and a pipe wrench, which is useful even where there is no pipe to join; stock and dies for cutting threads and cleaning out battered bolts; heavy hammer. If smithing tools can be used, a portable forge, an anvil,

three-pound hammer, sledge hammer and tongs will be wanted. The anvil and forge can be bought for $5 to $10 each. Anyone with reasonable mechanical ability can soon learn to make a weld and temper steel.

In repairing harness and shoes, the following are required: Stand and lasts; pincers; snips; awls; sewing clamp; riveting hammer; supplies, as rivets, flax thread and needles. Miscellaneous tools which are frequently in demand are: Steel crowbar; trowel for concrete work; saw-sharpening set; putty knife; glass cutter. If one can afford them, a set of grinding wheels are invaluable. A coarse-ground emery wheel should be obtained for coarse grinding, a fine-grained carborundum wheel for finish grinding and for grinding edged tools, and a stitched-wool felt wheel coated with emery dust for polishing plowshares, cultivator shovels, etc. The modern carborundum wheel is far superior to the old-fashioned grindstone.

As to material to be kept on hand in the shop for repair work, the following list is suggested: Tacks; nails; screws; an assortment of nuts, washers, stove, carriage and machinery bolts; staples; wire of different kinds and sizes; sandpaper; paint and paint brushes. Large assortments of nuts, washers and bolts can be bought from some of the mail-order houses, or one can buy from ten to twenty-five of each size from a local dealer. The old pile of junk is not a complete loss when its owner possesses a good equipment of workshop tools. All bolts, nuts, iron rods, etc., should be saved, for they will prove a source of repair on many occasions. Label different sizes of the various articles mentioned above, and then keep them in their places. It is also a good plan to keep pieces of seasoned hickory and oak stored away in a dry place, so that handles and singletrees can be made whenever needed.

PRUNING THE SMALL FRUITS

Practically all of the pruning of small fruits is done in early spring, altho some growers cut out old canes in late summer after the bearing season is over. Blackberries and red raspberries are handled in much the same manner. Berries are produced on shoots grown the year before, and after bearing once the canes die. The first essential, then, is the removal of all dead wood to give the plants a chance to send up plenty of new and vigorous growth.

At the same time the new shoots may be cut back a little to induce better berries and prevent overbearing. If raspberry plants are grown by the hill method the red varieties will need topping when they have reached the height of three feet. Black-cap sorts should not be allowed to grow much above two feet in height. Blackberries are of stronger growth, and need not be cut back shorter than four feet.

Currants are pruned in various ways. For the home garden it is usually sufficient to cut out weak and unprofitable shoots. It is said that currants are not produced to any extent on wood that is more than three years old, hence it is advisable to cut out the entire clump of canes during that time and provide for a complete renewal of healthy growth.

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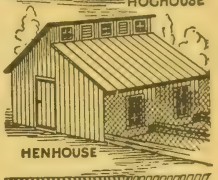
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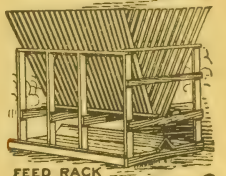
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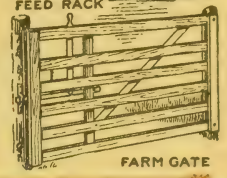
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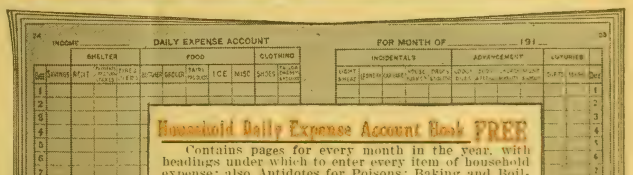

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Sheep as a Sideline

Wool, Mutton, Lambs and Manure---Four Elements of Profit Which Make Sheep-Raising Desirable

By J. A. Raiser

NOT as a main issue, exactly, but as a side issue, are sheep a paying investment? In both cases, or in either case, I believe I can truthfully say they are, and that without a doubt, but under conditions. These are: First, pure-blooded, good, thrifty stock; second, careful management and best treatment of the flock you have under your care.

While sheep may be better able to rustle to maintain themselves than cattle, as far as feed or pasture is concerned, it stands to reason that they cannot maintain themselves profitably on skimp pasturage or on feed no other stock will eat. If sheep will receive as good attention and feed as the farm can afford they will be indeed a paying investment, second to no other farm pursuit, either grain or stock raising.

Sheep are profitable in this, that they are wonderful upbuilders of the farm. Soil invariably improves on farms where sheep are contihually kept, to such an extent, in fact, that good, better and better crops are possible in consequence.

briars, and the like are eaten out or kept down a certain length of time, a solid, unbroken turf of grass soon covers the pasture.

Sheep while on grass scatter their manure much more evenly than cattle, and it is therefore of greater value. And it stimulates the grass growth from year to year, and a better pasturage is insured. Cattle do not seem to object to graze on pasture thus stimulated. Another profit to the credit of sheep.

Mismanagement in sheep-keeping will detract a great deal of the profit from them. "Scavengers" tho they may be called, they need the best of care to keep them in good health, thrifty, and at a high point of productivity. Sheep are highly susceptible to disease, and easily succumb to disease after they have contracted it, so the only thing to do is to prevent it.

Water underfoot is very unhealthy and a great detriment to sheep-raising, hence it is best to keep sheep away from low, wet pasture. However, wherever possible, it will pay to thoroly underdrain such pasture land. Low,

Such a sight as this would gladden the heart of a man who had any love for sheep-raising

in this line sheep are indirectly a paying investment as soil improvers, as they return to the soil 80 per cent of fertility from the food eaten, a larger proportion than any other class of stock. For this purpose sheep do not always get the credit I believe they should have. I have yet to see the farm upon which sheep have been kept continually for years to be a poor farm, a farm of inferior crops. Good crops furnish the foundation of a fortune, and if sheep insure good crops they must certainly be a large dividend-paying investment.

It has been said that sheep destroy enough weeds and shrubbery to pay for their keep, as they will not eat grass so long as they can get the weeds, etc. Be this too strong a statement or not, the fact remains that owing to the weed-eating and weed-destroying propensities sheep have, almost twice as much other stock can be kept on pasture where sheep have done their good work as on one where sheep have not been. After the weeds,

wet soil is never very productive, even of pasture grasses. Fouls or footrot in sheep is induced by the victim wading in mud or other filth. Well-drained land or dry hillsides are the most healthful for sheep. Sheep by nature are at home on hilly farms, and are able to graze where other animals dare not go. Owners of such farms should be encouraged to raise and keep more sheep. They will soon have more productive farms in consequence.

Growing sheep on the same pasture from year to year is apt to affect them with what is called stomach worms. While they are almost certain to exist in every flock of sheep, they do not seem to interfere with the health of grown sheep. Their ravages seem to occur in young lambs which graze with their dams on sheepsick pastures. To get rid of the pest is a difficult matter. To prevent its occurrence is a matter of considerable importance. Change of pasture helps to some extent. But the only effective way for this and other diseases of the pasture is culti-

vation—thoro cultivation and rotation of crops in which rotation grass or pasture plays the most prominent part.

While you want to produce wool as cheaply as possible, there is no known method to enable the sheep farmer to produce it without feeding sheep or providing them with good pasturage. Wool is a product from feeding the same as flesh, and the flock must be well fed to produce the most wool. The cheapest wool is that which is produced by liberal feeding of the best obtainable feed. In fact a variety of feed of the kinds that tend to the building up of the system and keeping it in vigorous health. Plenty of feed does not mean profusion by any means. Overfeeding, or sudden changes from poor to very rich food, combined with want of exercise, if not actual causes, will contribute to the development of the loss of wool among ewes. This has been the experience of sheep growers.

It should be remembered that sheep suffer greatly from hard, driving winds, rains, and severe snowstorms, especially during lambing time. They should be well sheltered from such elements, and the quarters must be dry, roomy and well ventilated. Don't crowd too many under one shelter.

It is estimated that the cost of maintaining 100 breeding ewes in good condition is $1 per day, or one cent per head when kept on corn fodder, beets and oats. When kept on pasture their maintenance is much cheaper. It has often been stated that the wool or fleece of a sheep will pay for its keep and you have the lamb for your profit. Not an unimportant dividend by any means. In the long run you have triple profits from a flock of sheep, wool, lambs and mutton, coming at different periods, but from the same source.

WATCH FOR THUMPS IN EARLY PIGS

Thumps is quite a common disease in young pigs, particularly in the winter and early spring. Thumps very seldom, if ever, attacks a litter in the summer time, when the sow has plenty of range and the little pigs follow her, thereby getting the necessary exercise to keep them in good health. But with the litter farrowed early in the spring, when the winter weather is cold and it is impossible to turn them out, other measures must be taken to insure that they have proper exercise, enforced if necessary. If weather conditions are such that the sow and pigs cannot be turned out, a good plan is to put the little pigs outside of the pen, and in running around trying to get back in, they will get the exercise that they need.

The direct cause of thumps is an irritated condition of the nerves leading to the diaphragm. The diaphragm is the fan-shaped muscle which separates the organs of the abdominal cavity from those of the chest. This condition is caused principally by digestive disorders, overloading of the stomach, and lack of exercise. In hog cholera, thumping often develops as a complication late in the course of the disease.

Watch the little pigs carefully, as thumps is nearly always fatal, and always leaves them stunted when recovery does occur. Medicine is hard to give, and is not satisfactory.

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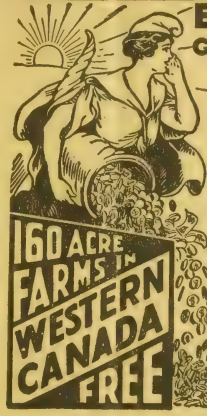

Bumper Grain Crops
Good Markets — High Prices

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa. No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

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The Dairy Calf

A Successful Start Means a Good Cow

By John Underwood

IN THE rearing of a calf for dairy purposes, it is much better for the mother and calf that the two shall be separated very soon after birth. The first milk of the mother is quite essential in the beginning of the life of the calf, consequently I leave it with its mother for about twenty-four hours. At the end of the first day the youngster is removed to a clean, well-lighted pen, where it is out of sight and hearing of the mother.

By this method the mother soon forgets the calf, and the next problem that arises is its raising by hand. One of the difficulties encountered in raising the calf is teaching it to drink. Apparently a young calf is born with an instinct to butt, and we have all seen a feeder, after a struggle with the calf, come from the pen with the milk spilled and his person pretty well bespattered.

I have found it a simple matter to back the calf into a corner, then, by placing my left hand over the bridge of the nose, and forcing my fingers and thumb into the calf's mouth to force it open, and by scooping up a little milk with the other free hand, it can easily be poured into the youngster's mouth. It is only necessary to do this three or four times until the calf begins to swallow and drink very nicely.

Regularity in feeding the calf is very important. There should be a definite time, as nearly as possible, for feeding. On most farms the usual practice is to feed the calf with whole milk for from four to six weeks. This depends somewhat upon the growth of the animal, and also upon its general condition, but when the time comes to change to skimmilk it must not be done abruptly. My plan is to take a week to change from whole to skimmilk. I begin by placing a very small quantity of skimmilk with the whole milk, and gradually increase this until the calf is receiving a whole feed of skimmilk.

This is the critical time during the life of a calf raised by hand, and it is very frequently the time when disorders arise that cause serious trouble. If, however, the feeding is carried out carefully, and if the skimmilk is also warmed to body heat for feeding, there need be no fear with regard to troubles in the calf's system. When it is about a month old the calf begins to eat grain and nibble at hay, and it is a good plan to make a mixture of equal parts by weight of wheat bran and whole oats, and keep it in a box before the youngster. Also have a little rack of some clean, well-cured clover or alfalfa hay, and it will begin to consume a considerable portion of roughage.

When the calf is put entirely on skimmilk I add a little cornmeal to the above mixture of grain. I also add a little soluble blood flour to the skimmilk, about one tablespoonful in each feed. This soluble blood flour is not what is called bloodmeal. I am careful not to overfeed the calf at any time, and always see that the milk is fresh and at a temperature equal to that of the body. When the calf is seven or eight weeks old I do not allow it to have all the grain it will eat. I feel that it is much better to force it to consume a large amount of suitable roughage, such as alfalfa and clover, and give only enough grain to keep it in a good growing condition, not permitting it to become fat at any time.

In developing a dairy cow it is not fat but flesh that is wanted. The good dairy cow don't become fat. Calves are like cows, and some will require more or less feed than others, and we must govern ourselves according to the thriftiness of the calf. As soon as grass comes in the spring the calf is allowed the run of good pasture and provided with pure water in plentiful supply. It seems needless to say that cleanliness in all things and at all times is a feature of extreme importance in raising a good dairy calf. Many calves are thrown out of condition from no other cause than unclean feeding receptacles and pens.

The feeding pails should be cleaned each time after use, and it is easy to keep the pen in good condition. Wheat straw makes fine bedding, and when it becomes soiled it is easily removed and a fresh supply put in. I have already mentioned that a very critical time in the calf's life is when it is being changed from whole to skimmilk. Scours frequently arise at this time.

This is very serious to young calves, and great care should be taken to avoid it. As a corrective, lime-water placed in the skimmilk is very effective. If a small quantity of lime is slacked with water and allowed to stand until the clear water forms on top, this clear water can be skimmed off, and a teaspoonful of this placed in the skimmilk has a very desirable effect. There is another thing that needs to be watched carefully, particularly where a number of calves are kept together in a pen, and that is the appearance of lice. A simple and effective remedy is to dissolve a small bar of soap in a pail of water, and then, by placing in this about a pint of kerosene, an emulsion can be made that, when rubbed well into the calf's hide, will act very promptly in the destruction of lice.

It is a splendid idea in raising a calf to handle it frequently. It may seem to be of but little moment for one to spend the time in petting and handling a calf, but right here is where many make a mistake. They let the calf go until it is fully grown, and then comes the very great difficulty of controlling the animal sufficiently to get it into the barn, or in "breaking it to milk" later on, at the time of freshening. All dairy calves should be handled frequently, and while doing this the own-

er should realize thoroly that the future cow is in the process of making because her temperament later on will very materially depend upon the fondling and handling that the animal has received as a calf and yearling. Besides, there is the intense satisfaction of having a very much quieter cow, and an animal that will be very much gentler as a mother and milker.

MILK PAILS

In the production of clean milk the pail used in milking plays a great part. An open pail, with an opening larger than the lower part of the vessel, of course, gives the best opportunity for the milker to "hit the pail," but it also gives dirt of all kinds the best chance to get into the milk during the process of milking. Some pails taper towards the top. Others are partly covered, so that dirt does not have the chance to enter. Some have a hood extending so far over the top of the pail that it is almost impossible for anything to fall into the receptacle.

These all have their advantages, and everyone who does his milking by hand should exercise care in choosing the type of pail he can use to the best advantage. The more nearly the top is closed the harder it will be to see that the pail is kept clean, and a dirty pail may be a greater source of contagion than the dirt, hair, etc., which falls into the milk. The pail should have the seams filled with solder, so that the inside of the vessel is smooth. It is easier to solder on the outside, and often the seams on the inside are left open, and very soon a yellow deposit of milk and cream settles there which ordinary washing will not remove. Here the microbes multiply between milkings, and seed the warm milk with a crop of bacteria which soon causes the milk to change flavor.

Milk pails are sometimes made with double bottoms to prevent rusting. The inside bottom is made of zinc. This, after a time, gets a hole in it, and then it becomes a veritable hotbed for propagating the microscopic plants. When the warm milk comes into the pail, the air under the false bottom expands, as will be noticed by the bubbles rising in the milk. When the milk cools, the air under the false bottom contracts, and milk is drawn between the bottoms, where it can never be washed out. Here it putrifies and is a constant source of contamination.

I was acquainted with a case where a high-priced milk pail thus acted as a source of contamination for a long time before it was discovered where the microbes came from. When the hole was discovered, it was impossible to get it soldered so that no milk could go between the bottom until a hole was made in the outside one. Sometimes strips of zinc are soldered across the bottom of pails to prevent rusting by the unequal oxidizing power of the metals. Here the same thing is likely to occur, and hide an enemy which is worse than a hole in the pail.

A fruitful source of bacteria in milk is the strainer. Brass strainers are sometimes placed on milk pails. These are often so filled with dried milk that the milk flows thru but slowly. Often a cloth strainer is used, and washed after each milking. If this is not wash-

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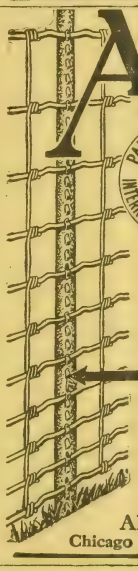

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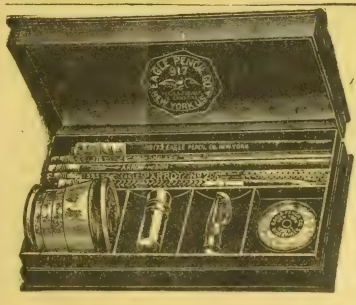

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ed carefully with cold or warm water, then with soap or cleansing powder and hot water, and then thoroly scalded, it becomes a prolific source of contamination. The strainer, after having been scalded, should be hung in the sun to dry and air. The pail should be scalded and not wiped, then placed in the sun to dry and air. Everybody knows that it is of paramount importance to keep all utensils used in connection with milk perfectly clean at all times. Many of us, however, are very careless in this respect.

CONDITIONS AFFECTING MILK FLOW

Practically all the effects produced by season upon milk yields are indirect results due primarily to the influence of the season upon the food of the cows. At no period is this effect more marked in ordinary seasons than when the animals are first turned to pasture. The sudden change from a dry, and more or less unpalatable food, to a succulent and palatable one, has a marked influence upon the milk.

Primarily it increases the flow of serum, and this often before the improved character of the food has had time to show any effect upon the cellular formation. So for a day or two the milk becomes, especially in the morning, exceptionally poor, and a sample being taken, it looks bad. In such cases nature has righted herself, and the cow will give a more normal, tho perhaps still a poor quality of milk. There is one further aspect of the milk production which should now be briefly considered, namely, that it is a process highly influenced by the nervous system of the cow. Whatever excites the nervous system will affect the milk yield, mainly checking cellular growth. Excitement of any description, owing to its effect upon the nervous system of the cow, immediately affects her milk yield.

The period of heat always causes the milk to fall off in quality, and should the cow be served, so great is the effect upon the nervous system that the milk yield becomes quite abnormal, both the fat and other solids sinking far below the standard. But there are other sources of excitement which may have far more general effect, such as the worrying of cows in the fields by dogs, flies or great heat, and the excitement produced by thunderstorms. All animals dread a thunderstorm, and it has been noticed that the milk yielded at such time will produce scours in calves. It is therefore of considerable importance that cows be kept as quiet as possible at all times.

A dog will frighten a cow, especially a cow that is about to or has just freshened, more quickly than any other one thing I know of. At calving time a cow should never get sight of a dog. I know of several instances where cows had a hard time in calving for no other reason than the excitement caused by a dog following the attendant to the stall immediately before the calf was born. In the lots and pasture fields dogs should never be permitted to go among the cows. The practice of handling cows with a dog is one not to be commended, to my notion.

DEHORNING CALVES

Hornless cattle are the favorites of every farmer, and especially the man who must handle his live stock in as little space as possible. I have used the method of dehorning that is easiest—that of killing the budding horn in the head of the calf. For a successful operation the calf ought to be less than three weeks old, and certainly not more than a month old.

It does not make much difference whether caustic potash or caustic soda is used. Either will do the work, and most druggists keep them in the form of sticks about the size and thickness of an ordinary lead pencil. I have never seen a calf dehorned in this manner suffer the slightest backset, and I am quite certain that the head will be smoother and neater in appearance when the horns are removed in calfhood than when permitted to grow for a year, and then sawed or clipped off. In my neighborhood the sawing and the clipping of horns have about gone out of fashion, as practically all the calves born with horns have their horns killed while they are in their first two or three weeks.

The actual work of killing the little horn bud is extremely simple. I tie the calf up to a post or to the manger in the cowshed. I want the head so tied that the youngster cannot twist around and injure itself, and I want light enough on him to see what I am doing. Feel the calf's head for the little button under the skin that will finally develop into a horn if left alone. In the first three weeks of the life of the calf this button is not attached to the skull. I have seen some men remove these buttons with a keen-edged knife, simply clipping them out from under the skin, and applying an antiseptic salve to the wounds. This, however, is a little more brutal than the use of caustic. Instead of following that plan, I clip the hair away from where the horns should be, and locate the "buttons" by means of touch. I take a piece of leather about five or six inches square and cut a hole about three-fourths of an inch in diameter in the leather. Then I wrap a few thicknesses of paper around the caustic, adjust the hole in the leather guard directly over the horn "buttons," and apply the caustic. The leather will keep the caustic from corroding the flesh and skin around the horns.

It is useless to attempt to use the caustic treatment after the calf is a month old. Some of the most ill-shaped heads I have ever seen on cattle were the results of trying to remove the horns at two and three months old by the caustic method. All the effect it seems to have then is to distort the growth of the horny tissue, twisting it into grotesque shapes, and in some cases starting a bony growth under the skin. After the calves have been treated by caustic sticks they should be kept indoors for a week if the weather is at all wet. Where the caustic is clinging to the skin the rain is likely to run down into the eyes and cause blindness.

HOW TO DO GOOD HAND MILKING

Milking machines are an assured success, and are in use in many of the larger dairies. But a large proportion of the milk will continue to be drawn in the old way that has been practiced for centuries. It will be done by a

person who sits on a three-legged stool, and sings or whistles while he milks. Or, if he don't, he should cultivate that habit, for this will convince the cow that he is in a good humor, and have a soothing effect on her, causing her to give more and richer milk.

The use of any organ of the animal body promotes its development, and this particularly applies to the udder, for the process of milking, if carried out thoroly, increases the milking capacity. To secure the greatest development of the udder the milking must be done very completely, and no milk left behind at each operation. There are two reason for withdrawing all the milk. First, to develop and increase milking powers, and second, to obtain the richest portions yielded during the whole of the milking, namely the "strippings."

Failure to withdraw all the milk from the udder at time of milking is a common cause of cows drying off soon, for a prolonged lactation period can only be obtained where the complete removal of milk at each milking is effected. It is a vexed question as to which teats should be milked together. By taking, say the two fore teats, and then the two hind ones, the hands become somewhat cramped, but I believe this is on the whole the best method. A good delivery of milk to the pail may be had by grasping a near fore teat and an off teat, and then then reversing the order.

With most cows, however, the hind teat yields more milk than the fore one, and if one hand is being used to milk near fore teat and an off hind teat, the operation is not usually completed simultaneously.

Milking a little milk into the hands when beginning to milk is not a good practice. It is impossible to prevent dirty drippings from falling into the milk pail when the hands are moistened in this way, no matter how clean the hands of the milker may be when starting. Hence the importance of milking with dry hands. Three essentials of good milking are that it be performed, first, quietly; that is drawing the milk in a manner which will cause no discomfort to the cow. Second, quickly; if performed quickly more milk is obtained, for rapid milking appears to be beneficial in increasing the flow. A comparison of the results obtained by good and inferior milkers makes this point very clear. The common indication of good milking is the production of plenty of froth upon the milk in the pail. The third essential is to milk the cows thoroly, the last milk, being the richest, should always be withdrawn. Regularity in milking is important.

My cows are milked at as near the same hour morning and evening as possible. The more equally the 24 hours are divided in which the milking is done twice the more uniform will be the quality of the milk produced. For example if milking takes place at six o'clock in the morning the next milking time should be as near six in the afternoon as possible. If milking is delayed the cows frequently become uneasy, and the irregularity may cause considerable pain. Cows left too long without milking get very distended udders, and may suffer much pain. Very heavy milkers sometimes have to be milked three times instead of twice a day to relieve the pressure on the udder.

Overstocking, or allowing the udder to become unduly distended with milk by failing to milk a cow previous to offering her for sale, is a common but cruel practice. I have known of instances where inflammation of the udder resulted even when cows were thus treated. The operation of milking is one of the most critical on the farm, and much of the success of a dairy depends on doing it in a proper manner.

A GOOD CHANCE

A Change of Food Works Wonders

Wrong food and drink cause a lot of trouble in this world. To change is first aid when a person is ill, particularly from stomach and nervous troubles. As an illustration: A lady in Mo. was brought around to health again by leaving off coffee and some articles of food that did not agree with her.

She says:

"For a number of years I suffered with stomach and bowel trouble which kept getting worse until I was ill most of the time. About four years ago I left off coffee and began using Postum. My stomach and bowels improved right along, but I was so reduced in flesh and so nervous that the least thing would overcome me.

"Then I changed my food and began using Grape-Nuts in addition to Postum. I lived on these two principally for about four months. Day by day I gained in flesh and strength until the nervous trouble had disappeared. I feel that I owe my health to Postum and Grape-Nuts.

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Opportunities for Profit

Being on the Job at the Right Time is the Highest Form of Efficiency in Farming

By George B. Crane

DEWEY HANES, an Ohio farm boy, last year raised 154.2 bushels of corn on an acre. One of the reasons given by Dewey for his success was the fact that he carefully tested his seed corn before planting. We believe he has the right idea about this one factor which has a great deal to do with a profitable corn yield.

Testing seed corn for its germinating power is doubly important this year, because of the wet season experienced in most of the cornbelt states last year. The corn crop harvested last fall contained more moisture than is usually found in a mature crop. This, we believe, will hold true for both corn selected in the field for seed and that put in the crib. Corn high in moisture content is more apt to have its germinating power injured passing thru the winter season than dry-season corn. Therefore we conclude that our seed corn must be very thoroly tested this spring.

There are many good methods of testing seed. In every case, whether it is a box marked off in squares, individual baskets, or a "Rag Doll," the main point to remember is to make certain that the ears and tester are carefully marked, so that the ears tested will not be confused. This is easily done by numbering the squares in the tester, and then giving the ears the same numbers as the sample is taken from each ear. A convenient way to mark the ears is to pin small pieces of cardboard into the butts. After the test is made only the ears showing strong vigorous growth should be laid aside for seed.

An excellent method of testing seed corn is shown here—selecting kernels and marking ears

Stopping the Golden Stream

With nitrate of soda near $80 per ton and other sources of nitrogen correspondingly high, it will pay well this spring to make use of every bit of manure about the barns. I believe with more manure-spreaders in use than ever before, there is less manure being wasted every year. At best, tho, manure will sometimes accumulate during the winter. Unless it is in a manure shed or on a cement floor, we will lose money pretty fast if we do not get in on the land before the spring rains start. More than ever, then, we can stop the "golden stream"—the stream of liquid manure—from getting away. Liquid manure is high in nitrogen content, so we must save it. From every point of view, barnyard manure is becoming more valuable every year. It contains some potash, which, of course, it is almost out of the question to buy now, because of the high war prices. What a satisfaction we will have this season as we spread manure on the land. It will be worth more money than ever before.

Benefits of Farmers' Gatherings

Just now, with the season of Farmers' Institute and Farmers' Week meetings just past, is a good time to ponder over the benefits of such gatherings. We believe, that as time goes on and men and women on the farm are learning more and more about their business, that these gatherings are increasing in value. Think of 200 leading farmers in a state like Ohio coming together for a week's school and conference at the state university. That's what happened this year early in February and the gathering goes on record as one of the greatest ever held in this country. Every county in that state was represented. In addition to the extensive program put on by the University, most of the leading farmer's organizations in the state held meetings at which many actions were taken to further their interests. The spirit of cooperation between all organizations was of the best. The same kind of a Farmers' Week gathering is held in every state once a year. Will not the influence of such meetings be far-reaching? The very atmosphere of a meeting where 2900 representative farmers come together is inspiring.

Farmers' Institutes

The same thing may be said of the annual local community meetings, known in most states as farmer's institutes. At no other time during the year do the farm men and women of one community get together at just such a meeting. The purpose for which it is held—instruction, helpfulness, inspiration, and sometimes entertainment of the right sort, meets with the approval of those who attend. They are interested. They want to learn. They want to help each other.

When we have a meeting of men and women in this frame of mind great good is bound to result. The farmer's institute is also a benefit to the place in which it is held. This is usually the community center—the town hall, church or school. People, you know, connect the events that happen in a town with the reputation of the town itself. They consider events as well

as the number of stores, kind of street construction and the like. Therefore, any community in which the people hold a successful gathering for such a high purpose as that for which an institute is held is to be praised, and we believe the benefits will appear here and there in that community thruout the year.

Getting Work Done

The man who does not like a good, honest hard day's work should not be a farmer. No matter how much modern machinery we install on our farms, how well equipped our houses and barns are, there is plenty of full days of hard work left. This we must admit and face. Acknowledging then, that we have plenty of work to do, the point that should interest us is to figure out how we can get the most work done. Of course, every man has his method, and he should follow his own ideas as near as possible. But I know of a man who has a simple plan of getting work done to advantage from which we all might at least get a suggestion. On his desk in his farm house he keeps a paper pad, on which he keeps posted the ten most important things he has to do. These he does in order, and from the looks of his farm, it seems to me that he must try to clean up ten important things every day. His regular chores do not go on this pad. He tells me that this plan has been invaluable to him. Once a day, usually in the evening, he looks over this memorandum, marks off the things done and puts down things he has to do.

This seems like a mighty little thing to help get much work done, but it helps immensely. It takes but a very few minutes time each day. How often do we run across jobs as we go about that need attention? If we jot them down each evening we will soon get in the habit of remembering them. It will be unnecessary to carry the pencil and pad with us. Often, too, the very thing we put down is a job we could not find time to do later in the season if we had overlooked it now. The greatest good of using some such plan as this, of course, comes from the fact that we automatically learn to plan our work, and we all know that the man or woman who gets much done gives some thought to careful planning. The builder who does not lay his plans well will waste time constructing his building, and have a poor structure when he is thru with his work.

Old Scotchwoman: "The last steak I got frae ye I could hae soled ma boots wi' it."

Butcher: "And why did ye no dae it?"

Woman: "So I wid if I could hae got the pegs tae gang through it."

"Why are you fooling so long with that clock, Hortense?"

"I am cleaning its hands, madam."

"Well, just wipe 'em. You needn't manicure 'em."—Judge

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March Garden Work

The Work of Preparation and Planning This Month Brings Big Returns at Harvest-time

By Charles H. Chesley

THIS month is still too early to think of doing much work in the farm garden, and especially is this true in the northern states. South of the Ohio river more work will be possible. If old plants and weeds were not cleaned up last fall, this work should be done at once. Mulching material may be cleared from the strawberry beds and asparagus rows the latter part of the month. We do not like to take off this protection too early. Sometimes a premature warm period will start an early growth, and this will be followed by a frigid snap that will weaken the vitality of the plants. For this reason it is better to leave the protecting material in place until it is pretty certain that winter is really over.

Plant a few early peas just as soon as the ground is in working condition. This may be the latter part of March in the latitude of southern Ohio. Farther north it will be later. The Alaska pea has a hard seed that will withstand any amount of cold and moisture. Wrinkled varieties cannot be planted quite as early. Radishes may also be planted as soon as the frost is out of the ground.

The hotbed should be made up this month. For the ordinary farm garden there is little need of sowing early seeds until about the middle of the month. Tomatoes, eggplants, peppers and cabbages should be planted in the hotbed about that time. Plants started this month, and kept growing, are better than those started in February and neglected. If early celery is to be grown, sow seed of Golden Self-Blanching or White Plume this month. Right here let us add a word in season. Success with celery depends largely upon the seed, therefore get the best. Beets and lettuce may be sown in the hotbeds the latter part of the month.

If plants for the garden are being grown in the house windows, see that they are kept in a flourishing condition. They will probably need transplanting from the seed flats to other boxes by the latter part of the month. One of the secrets of success in starting plants is to keep them growing all the time. Besides starting the vegetable plants, start, also, a supply of asters, salvias, petunias, and other plants for the flower garden and lawn beds.

Rhubarb is one of the earliest products of the garden. It is safe to take the mulching material from the roots early in the spring and put some fresh manure in its place. Place barrels, from which the bottoms have been removed, over a few of the clumps of roots, and the stalks will grow much faster than in the ordinary way.

In general it may be said that March is not a busy month in the garden. The principal work that can be done is in getting ready for April work. As a last admonition, if garden seeds and supplies have not already been ordered, attend to the matter at once. Get out the tools, and see that they are in shape.

TOMATOES IN THE HOME GARDEN

The tomato responds readily to good treatment, and, altho it will grow in almost any kind of soil, and with very indifferent care, yet it pays to treat the plants well and get better results. Some of the dwarf tree tomatoes, especially the early ones, wil grow without any support. Where only a few plants are set, a few of the Earliana or Chalk's Early Jewel should be grown for early fruits, and Stone set for the main crop for canning and preserving. The Stone does best if it is given a support. We set stakes five feet tall, and put the plants on the south side, training them to the stakes as they grow. One stem only should be allowed to develop on each plant. Others should be trimmed off. When the plants reach the tops of the stakes, clip them, and keep all later buds pinched off. Any sprouts that appear in the forks and axils of the leaves should also be pinched. Buds and blossoms will also appear in the joints. These should be left to develop.

By restricting the growth of the vines, and destroying all the little sprouts that appear, more energy becomes available for the development of buds and the growing of fruits. Early and abundant yields result from this method. The fruit is also of better quality, as it is borne well above ground, and escapes the effects of rot and mildew. There will be fewer small, scrawny fruits, as practically all of them ripen up, owing to the abundant sunlight and available energy.

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The soil for tomatoes should be rich and well prepared. Deep plowing and thoro preparation with the harrow is essential. Old barnyard manure is the best fertilizer, but any commercial grade of fertilizer will do. Hen manure may also be spread on and harrowed in. Plenty of moisture is required by the plants during the growing and ripening periods. Select soil that is not too dry, and put the roots down deep. Also keep up the cultivation and dust mulch all summer.

In order to get a heavy crop, remove all ripened fruits from the vines before they begin to rot. If extra large tomatoes for show purposes are desired, allow only a few fruits to remain on the vines, and keep all surplus growth trimmed out. Aim to direct all the strength of the plant into a few specimens of fruit. By planting the Ponderosa variety, and treating the plants in this way, immense tomatoes may be produced.

Yellow tomatoes are appreciated by those who have raised them. The Golden Queen is of a pure yellow color, and the flesh is superior in taste to any of the red varieties.

KOHL-RABI

The purpose of the farm garden should be to produce as large a variety of products as possible, keeping always in mind the idea of economy of effort. A vegetable that is one of the easiest to grow, yet is seldom seen, is kohl-rabi or turnip-rooted cabbage. Used at the proper stage of development, this is way ahead of both cabbage and turnip in delicacy of taste. The bulbs should be used when no larger than a hen's egg. When that size they are entirely free from woody fibers, which develop later, and the flavor is intermediate between that of cabbage and the best-grown turnip.

We sow the seed in rows at the same time the early beets, spinach, carrots, and lettuce are put in the ground. Seeds come up quickly, and the plants are thinned to stand six inches apart in the rows. Bulbs grow quickly, and are ready to use in July. Two or three weeks later another row of seed is planted and again the first of June a few more. Do not attempt to use the vegetables when they are the size of a man's doubled fist. At that stage of their growth we boil them for the poultry. Hens that are confined to small runs will eat them greedily. By putting in seed three times, a succession may be had all summer.

Kohl-rabi cannot be stored with success, altho the bulbs grown from the last seeding may be kept for a time. A better way is to can a supply of the tender vegetables. Select bulbs that are the size of an English walnut, put them in boiling water for five minutes. Remove and when cold, pack closely together in glass jars. Add one teaspoonful of salt to each quart jar, fill with cold water, and put on the tops, but do not tighten the springs. Set the jars on a rack in a wash boiler and add water until it comes up to the necks of the jars. Heat the water and boil for forty minutes. Tighten the springs and set the jars away.

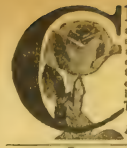
There are two varieties of kohl-rabi that may be grown for table use. The early White Vienna is our favorite, but the Purple Vienna is quite good.

GARDEN NOTES

Rhubarb that has been forced indoors during the winter months should be planted in the garden, and allowed to recover from the forcing by having no shoots removed during the spring and summer months.

Bunch beans planted four inches apart in the row will yield a better quality and a larger crop than if planted much closer.

In setting poles for pole or Lima beans, a good method is to set the poles in squares of four hills, bringing the poles together at the top and securely tying them. When this is done the poles will brace each other, and are not likely to be blown down by high winds. When the bean vines reach the top of the poles, the ends should be pinched off. This stops height-growth, and throws the energy of the vine to the formation of pods. The pods should be picked often Allowing them to dry or ripen decreases the yield.



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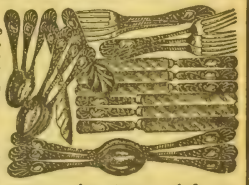

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Cash-Prize Farm-Work Contest

Winning Contributions Show That Farm News Readers Are Farmers Who Think and Do Good Work

HOW WE GROW A LARGE YIELD OF QUALITY CORN

First Prize ($5.00) Contribution

By Jay Lawrence, Ohio

Until about six years ago we were growing an unnamed common variety of yellow corn, that had been grown locally for a number of years. When planting time came we went to our crib and picked out our seed, or if it happened that we were out of corn we went to our neighbor's crib for our seed corn. We usually got what we considered an ordinarily good yield of corn, yet it did not come up to the yields which we read about, and as the type of corn did not just suit us we decided to import some "really good seed corn," and raise some like that which we read about in the seed catalogs and farm papers. We sent to Illinois for a peck of Reid's Yellow Dent and planted it on our best piece of ground in the corner of the field. It grew well thru the summer, and while it made a large yield of large fine-looking ears, yet they were very starchy and immature. Thinking that this variety was too late for our season we decided to drop it and take up some new variety.

The next spring I wrote to our Experiment Station regarding varieties of purebred corn, and asked them what variety was likely to be the most profitable for our locality. I also told them of our experience with the Illinois corn the year before. They answered by saying that the western corn was not adapted to our conditions, but that there were as many strains of Reid's as there were men who grew them, and that some strains were much earlier than others. They gave me the name of an Ohio breeder of Reid's, so we decided to try it another year. That year we planted 1½ acres of it and when we husked it, by actual measurement and weighed yield we had 133 bushels of shelled corn per acre. It was fine quality, and the type was one which we fancied, so we adopted this as our standard variety, and each year we have tried to improve the type of our ears.

Since our first experience with purebred seed we have tested about thirty varieties of field corn, and we have found that many of them have good points, yet after testing them side by side for several years we have decided that the best allround corn for our farm is the Reid's Yellow Dent. We think, taking it year in and year out this variety will give a larger yield of marketable corn than any other variety, and is therefore the most profitable to grow. This variety conforms so closely to the show card that few other varieties have any chance against it on a show table, and we get quite a little satisfaction out of beating the other boys in the show room.

In our variety tests we have learned that some of the varieties that have fancy names do not yield nearly so well as many of the local nameless varieties. We also learned that the variety name does not have so much to do with it, but it is the breeding which that certain variety has had. We do not mean to make any positive statement as to what corn will do best for any certain farmer or any certain locality, yet it is beyond question that some certain variety will be the most profitable one to grow, and it is up to each farmer, or some in each locality, to test the varieties, and find out which one is best adapted to his or their conditions. Because of climatic conditions, type of soil, time of planting and other conditions, a variety that may be best for a given locality would be an absolute failure in another. A good corn for any locality is one which occupies the entire growing season yet matures in time to escape frost, and one which produces a good quality of grain abundantly. Any farmer who will produce a productive strain of corn adapted to his climate will be able to sell good seed at a price profitable to himself and to those who buy, and will become a public benefactor by increasing the yield of corn in his neighborhood or section. Some of our varieties that did well the second and third year were absolute failures the first year. This proved to us that corn must be grown in a locality for a couple of years before it will become adapted to that locality, unless it has been brought from no great distance, and unless its former conditions were very similar. Some of the smaller-eared varieties, that did not come up to the yield of the larger eared varieties, we find will give a greater yield if they are planted thicker. On the supposition that all other conditions are the same a small-eared variety planted four stalks in a hill will many times give a larger yield than a large-eared variety planted at the same rate, for the reason that unless there is sufficient moisture in the soil to grow the big stalk and big ear the stalk will be spindly and the ear small. No definite rule can be given for the thickness of planting, because there are so many things to consider. The time of planting, the variety of corn, the fertility of the soil, the cultivation and the amount of rainfall each season will determine this.

More corn crops are cut short by insufficient moisture than any other one thing. To retain all moisture possible we get a perfect seed-bed first; then by keeping the soil free of weeds and cultivating after every rain, or not less than every ten days, we are able to keep a fine dust mulch over the soil at all times, and in this way we do not lose very much moisture. The year that we produced 133 bushels per acre we had planted a two-acre piece in 3½

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foot rows, one grain every nine inches. As it happened we had plenty of rain, and every stalk produced an ear, while if we had experienced a drouth our yield would have fallen far below the 100 bushel mark.

Many farmers make the mistake of cultivating too deep, and using too large shovels on their cultivators. We plow deep the first and second time thru and keep getting shallower each succeeding time. Many farmers reverse this plan. If they will notice carefully after plowing deep they will find many little hairlike roots on the shovels of the cultivator. These are the moisture feeders for the growing plant, and every time a root is cut, it cuts down on the size of the ear.

We think that the easiest and most practical way for farmers to improve the quality of their corn is by careful selection of seed and by planting a few of their best ears in one corner of the field for a breeding block. Each year we go thru the field at cutting time and pick our seed ears from the most desirable stalks. We aim to get ears from a hill that has had no better chance than the others, and from medium-sized stalks that are heavy near the ground. Medium-sized well-matured ears borne about half way from the base to the top of the stalk, and that tip down so the water will run off, are the ones we look for. These ears we plant in one corner of the field the following spring, and from this plot we select our seed the next fall.

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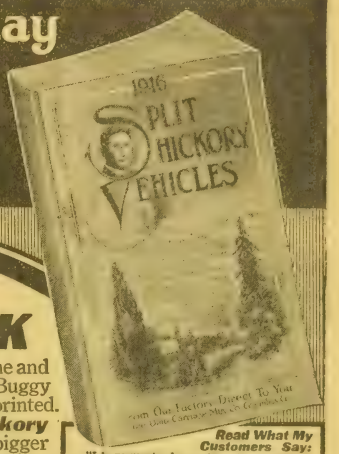

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Our Cash-Prize Poultry Contest

Facts Gleaned From Experience of FARM NEWS Poultry-Raisers

ECONOMY IN POULTRY RAISING

First Prize ($5.00) Contribution

By R. F. Katterjohn, Indiana

Efficiency produces profitable results in poultry-raising as well as in other occupations. It is only by strict economy and a knowledge of the losses and the gains of his business that a farmer can derive much profit from his fowls.

It is unwise to invest the profits of several years in the erection of an elaborate house. Make it inexpensive, with plenty of ventilation and warmth, and have the fixtures removable. A dust box in the winter time of dry soil and ashes is cheaper than insect powders.

I have provided myself with two sets of poles, which I change about every few months, carrying the set that is not in use a distance away from the house and leaving it exposed to the sun and rain until needed. For several years I have kept the fowls free from lice and mites in this manner, and sickness among them is rare.

There are a number of ways in which the feed bill can be reduced by the farmer. There is usually plenty of meat scraps and bones left from butchering and from the table to warrant the purchase of a bone cutter, thus reducing the meat bill. The heads of seeds from Kafir corn and cane, if dried in the fall, make an inexpensive winter feed. If the fowls have a large range, reduce their feed in the summer.

Make the nests accessible. Often a farmer will spend time and energy in crawling under the barn hunting for a hidden nest; an efficiency expert would say, "Close up the openings and provide more nests."

A water fountain saves the trouble of constantly refilling small pans. Where there is a water system, it is often practical to conduct the water to the fountain by means of a pipe.

The selection of a breed depends somewhat upon the purpose of the breeder. There is this advantage in raising breeds of the Mediterranean class: They may be hatched in spring and still reach maturity at the time when the price of eggs begin to soar higher; usually about the first of November.

Of course, in estimating the expenditures and income, the farmer must take into consideration the part that goes for home consumption, and the fact that his fowls, by their destruction of many injurious insects, are helping him in other lines of work.

PUT YOUR POULTRY ON A PAYING BASIS

Second Prize ($3.00) Contribution

By Charles Grant, Kansas

Do not wait till the balmy days come to give your poultry plans thought. Do not expect your patient wife to start the hens and chicks out in the same old leaky, mite-and-louse-infected assortment of store boxes and barrels located in the same little park which has never been stirred or plowed to renovate it. Better haul them all off and burn them. Half the usual yearly loss in chicks and half-grown ones in such quarters will build her a modest brood coop at the least calculation. It can be partitioned off to accommodate as many mother hens as generally used. Make doors to each apartment, hang with leather hinges and fasten with a wood button. Haul off the accumulation of rock used to prop boards over the openings of old boxes, and either plow the old park up or move it to another location on high, well-drained ground. As a result, I will assure you, the saving in feed, loss by vermin disease and animals, and the increased interest of your wife will cause you to take notice.

Have all the eggs you plan setting for the season hatch as near together as possible. Then, the chicks, being about the same age, will feed better, grow better, market better and with less work. Two leaks in poultry-raising

A home-made arrangement which answers the purpose when the season is well advanced

are especially noticeable: Hatching chicks of a dozen different ages, and having chicks to care for all spring, summer and fall, and midwinter will catch you before you get the last marketed; another neglecting to sort out the roosters and culls for market when broiler size, and bring the most.

Give the pullet stock saved the usual necessary summer care, plenty of fresh water, range, some shade protection in the heat of the day and as much green food as your garden furnishes during the dryer part of the season, such as waste cabbage, onion tops, etc. When fall comes and you plan on winter quarters, do not see how many you can crowd into your henhouse. Then if roup breaks out in midwinter lose your grit and sell a large number and start the next breeding season with a partially infected flock lacking vigor. Cull closely in the fall and keep a flock according to your housing and feed supply.

When winter sets in, and they have to be kept up more or less, keep a supply of grit before them, take the chill off their water in freezing weather, supply some green food and plenty of litter, all of which will contribute to keep them busy, healthy and contented. Make your care regular and systematic, and spring will find the pullets well developed, the hens fully recovered from their molt, the egg basket well filled, and the flock in general vigorous and ready for the breeding season. The next season will find you planning for your poultry on a different basis, and they responding accordingly. You will find that you have devoted no more time or investment in your work, but you will have a larger credit on your poultry account, and you can measure your future operations accordingly.

TO PREVENT DISEASE IN BROODER CHICKS

By Mrs. J. D. Penrose, Pennsylvania

Last year I raised 600 incubator chicks with an oil and coal brooder without white diarrhea, weak legs or any other disease.

Twenty-four hours after the hatch is over I remove my chicks from the incubator to the brooder, which has a temperature of 92 degrees. This temperature must be held the first week, 90 degrees the second week, 88 degrees the next two weeks, after which it should be reduced to 82 degrees and kept there until the birds no longer need artificial heat.

The floor must be dry and free from drafts. A piece of two-ply roofing paper is very good to put on the floor, then place some sand and litter on top of it. This will keep the moisture from coming up. A ring of roofing paper, eight inches high, placed around the brooder as a fence in the shape of a ring, will keep the drafts off, and also keep the chicks from wandering too far from the brooder when they are real young. As they get older make the ring larger.

The first feed is given the chicks, when they are thirty-six hours old, is grit, dry eggshells or sand, which is sprinkled on the feeding board. Four hours later, water at a temperature of 70 degrees, in which a few particles of permanganate of potash is dissolver, just enough to color the water red. When the chicks are forty-eight hours old I give them their first food, which is rolled oats, the kind that is used for breakfast food, and stale bread moistened with sweet milk. These two feeds are fed at two-hour intervals.

Sprinkle the rolled oats on the feeding board, but only enough so they will clean it up in ten minutes. This is the time white diarrhea is liable to develop. Don't forget that the chicks nourish themselves upon the yolk which they absorb just before hatching. The yolk is not entirely absorbed for four or five days.

Beginning with the third day, and continuing until the twenty-first day of the chicks' life in the brooder, I feed them a simple ration composed of four parts, by weight of cracked corn, two parts of broken wheat, two parts oatmeal and two parts granulated meat scraps, rich in protein. All food fed to chicks must be in small particles to avoid disorders in the crop and digestive organs.

After the chicks are six weeks old, a ration made of cracked corn, whole wheat and hulled oats, with beef scraps, can be used, also green food and oyster shell.

I have always thought that my success with brood chicks was attributed to: First, correct temperature; second, regular feeding time and correct amount; third, plenty of sunshine, dry floors and fresh air without drafts; fourth, fresh, clean water with a little premanganate of potash in it as a disinfectant.

Prepare for all spring work.

Lots of necessary things can be done now which will save time later on.

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The Dairyman's Problem--Milk Fever

Contributory Causes, Symptoms and Treatment

By W. F. Purdue

ALTHO milk fever does not cause the death of nearly so many cows as before the use of the oxygen treatment, there are still many good cows lost from this disease. Few farmers who conduct a small dairy, merely as a side line to their other farm operations, own a milk-fever outfit; others do not watch their cows closely enough at freshening time, and the disease makes great progress before it is discovered, and by the time a veterinarian can be summoned the cow is dead.

As a rule, it is the best cow in the dairy herd that is liable to this affection. The disease is not very common among the beef breeds, but makes it greatest inroads into the heavy-milking breeds. In the majority of cases the trouble occurs with the fourth, fifth and sixth parturitions. The disease rarely occurs with the young heifer, and it decreases in frequency after the most active milking period in the cow's life has passed. If a cow recovers from an attack of this kind her future usefulness as a milk producer is not greatly impaired.

The disease usually comes on within twelve hours to two days after the birth of the calf, and hardly ever occurs after the second week. It both comes and goes quickly. Death or recovery will generally take place in from one to three days after the attack. The name, milk fever, is somewhat misleading. There is no fever whatever, the whole system being cold and partially paralyzed. The warning symptoms are simply a refusal to eat and a general uneasiness. The man who rocognizes these symptoms as those of milk fever gives treatment at once. At first the gait of the animal may be staggering, and especially will there be imperfect control of the hind legs. Usually the cow will keep up a gentle lowing, easily mistaken for the sound many cows make to a new-born calf. There is a wild expression in the cow's eyes; she will stare around in an anxious manner, and will probably fail to recognize her calf. In a few hours the cow loses the use of her limbs, gets down with head around on her side and becomes unconscious. Apparently the entire hind quarters are paralyzed. Finally the muscles of the throat will become paralyzed, so that swallowing is difficult or impossible. For this reason it is not advisable to drench a cow when she has milk fever; the liquid is just as apt to go into the lungs as into the stomach.

In recent years the varied and drastic treatments for milk fever formerly practiced by veterinarians have been supplanted by oxygen or sterilized air. In the hands of a skilled practitioner this has, in the majority of cases, proved very effectual, and the layman may have equally as successful results if as well prepared for the work as veterinarians. If taken at the start, little treatment is necessary to arrest the trouble. Simply fill all four quarters of the udder with air. This is usually accomplished by means of a special outfit. Every dairyman with good cows needs such an outfit, which can be obtained for a comparatively small sum from veterinary supply houses, or from any firm carrying stockmen's supplies. A milk fever outfit is far cheaper than two or more trips of a veterinarian.

One of these outfits, which should always be kept clean and ready for immediate use, consists of a little metal chamber in which carbolized absorbent cotton is placed to filter the air; a rubber bulb for the air pump, a milk tube to insert into the teat, and connecting rubber tubing. Carbolized or sterilized absorbent cotton should be kept on hand for use in the filtering chamber. Handle the cotton with perfectly clean hands. Wash the cow's udder, especially the teats, with soap and water, after which they should be thoroly disinfected with carbolized water, which is made by mixing three tablespoonfuls of carbolic acid with a quart of water. The milk tube, before it is inserted in a teat, should be perfectly sterilized by immersing it in the carbolic solution for five minutes or else for fifteen minutes in boiling water.

Pump air into each quarter, without emptying the udder of the milk, until the udder is quite well distended. Slight massage of the udder will cause the innermost recesses to become distended with the infected air. Tie a broad tape about each teat after removing the tube. Remove the tape after the cow has been on her feet a couple of hours; the muscles at the tips of the teats will then retain the air until recovery is assured, when the air should gradually be milked out. Of course the calf should not be permitted to suck during the course of the treatment. If the air is absorbed before the cow recovers, a second injection may be given, but this is seldom necessary.

Undoubtedly the best way to treat milk fever is to prevent it, if at all possible. And this is possible, to a great extent, by using care in drying off a cow. No large amount of milk should ever be left in the udder when a cow is dried off. Then after a cow is dry, she should be handled up to and through the parturition period in a most careful manner. Cows that are well fed during their rest period, and thus rendered plethoric in their condition, are more susceptible to milk fever than cows which are poorly fed. However, the advantages gained in feeding the cows well previous to freshening are sufficiently great to offset the danger incurred by milk fever, especially since the introduction of the oxygen treatment for this disease. A decrease in the amount of food given just prior to and immediately after parturition is a wise precaution. Another wise precaution against milk fever is to have a cow in a laxative condition at calving time by giving her a pound of Epsom salts or a quart of raw linseed oil a day or two prior to freshening.

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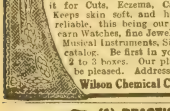

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DEVELOPING A BETTER TENANCY

By George H. Dacy

Tenants usually are transients. Why? Because as soon as they skin one farm they want to tackle a new one. The tenant is after all he can get under the existent method of share or cash renting. The landlord is trying to make interest on his investment in the farm, and at the same time he is trying to improve the place, or at least he is striving to prevent the farm from going backward. However, a frequent change of tenants, short-time leases, the maintenance of little live stock, the pursuit of grain farming, the sale from the farm of practically all that is raised each year, ultimately make the farm poor.

The landlord who will farm on shares on a long-term lease, which will favor the maintenance of plenty of live stock on the farm, and the feeding of the bulk of the crops on the home place, so that the corn, hay, oats and other grain and long feed will be walked to market in the guise of fat hogs, cattle, sheep, or as milk or cream in the dairyman's can, will realize a larger net profit from his farm each year, while the place will also be constantly improving in fertility. It is advisable for the landlord, if he is an experienced farmer himself, to seek out some hustling farmer who knows his business. Let him rent the farm on shares for three or five or seven years under a restricted lease which will oblige all the crops, with the exception of wheat, rye or barley, to be fed on the farm to live stock, which will be jointly owned by the landlord and tenant.

If the tenant is limited in finances, the landlord may loan him the money with which to purchase his share of the cows, steers, sheep or hogs. Each party should furnish one-half of the feed, while the tenant must furnish all the labor. When the fat stock are marketed the proceeds should be equally divided between the landlord and tenant, after the tenant has paid the interest on the amount borrowed of the landlord. The tenant who operates under a long-term lease will not skin the farm of all the pickings the place offers. It will be to his advantage to save all the manure, to keep down the weeds, to maintain the fences and buildings in good repair. He will be spared the extra expense of frequent moves from farm to farm. He will live long enough in one community to form an acquaintanceship, and to enter into the political, social and religious life.

The long-term tenant will market his crops at a larger net profit in the concentrated form of live stock than he would ever secure if he directly cash-cropped the grain and hay. Operating under the direction of an experienced landlord, he will also gain much valuable farming knowledge particularly if he is a young man.

Tendency should be a stepping-place to ultimate farm ownership. A tenancy such as outlined above is one of the short cuts to land ownership.

Long-term leases should vitally appeal to land-hungry tenants on this account. Without doubt the long-term lease and the maintenance of more live stock per acre on the rented farm will become very popular with both the owners and the renters during the next score of years.

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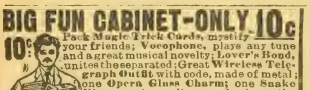

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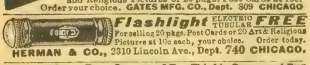

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In the Contest which closed January 1, the First Prize, $5.00, was awarded to William M. Allcorn, Missouri. The Second Prize, $3.00, was awarded to Truman Bittinger, Maryland. The other two $1.00 prizes were awarded to Alta Scott, Ohio, and Gertrude McGowan, New York. Prize-winners in the contest, closing February 1 and March 1 will be announced in the April number of FARM NEWS.

THREE WISE AND USEFUL BIRDS

The idea has too long prevailed that owls are injurious birds and only deserving to be destroyed on sight. They have been classed as thieves and robbers that prey upon the farmer's poultry and the young of many useful birds. This deep-seated and persistent belief is wholly unfounded. With the possible exception of one species of owl known as the great horned owl, every other kind earns its protection by the services that it renders. The three kinds represented on this page are birds which do an incalculable amount of good in destroying harmful rodents and insects that are a menace to agriculture and fruit growing.

Of the short-eared owl it has been proved that fully 75 per cent of its food is meadow mice, while gophers, shrews, small rabbits and insects make up most of the remaining 25 per cent.

A prominent ornithologist says of the barn owl: "It is surprising that at the present day any one should think it necessary to write a fresh plea for this bird—a bird that has been a favorite of our ornithologists for the last hundred years and whose praises may be read in a hundred volumes on our library shelves. He who destroys an owl is an encourager of mice. Looked at from an economical standpoint, it would be dificult to point out a more useful bird than this owl, and it deserves the fullest protection; but, as is too often the case, man, who should be its best friend, is generally the worst enemy it has to contend with, and is ruthlessly destroyed by him, partly on account of its odd appearance and finely colored plumage, but oftener from the erroneous belief that it destroys the farmer's poultry."

The screech owl is still another highly beneficial bird whose favorite retreat is the apple orchard, and upon the enemies of which he makes by far the greater part of his living.

JOHN BURROUGHS AND THE CHIPMUNK

A chipmunk came and dug his hole in broad daylight within a few yards of my bush camp under the apple trees, and I have had daily opportunity to watch the proceedings.

I have never known any one who has been so fortunate in this respect, nor have I ever seen in print any account of the little rodent's proceedings on such an occasion. For several years I have been an observer and an investigator of their little mounds of freshly dug earth along the margin of the highways or the woody borders of the fields, but until now have never caught one of the little miners at work. I had fancied that the digging was done at night, and that the earth was carried out to the dumping-place in the cheek-pouches. But such is not the case. My little neighbor worked by day, and his cheek-pockets were never used in transporting the earth from his hole to the dumping place. I had often found the pile of fresh earth two or three yards from the

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PREMIUM No. 4

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This beautiful Ladies' Neck Chain and Locket is gold plated, burnished in finish, with a long cable link chain, having a patent spring catch. The Locket is set with highest quality brilliants in the ever popular star and crescent design. These brilliants shine and sparkle like real diamonds. It is over 1-4 inches in diameter and can be engraved on the back. Secret dust-proof compartments for 2 pictures.

You can carry a photo of your sweetheart or your parents or any of your dear ones. This is not a cheap Locket (we do not give away cheap premiums to our workers). It resembles a Locket and Chain for which your jeweler would charge you $10.00. It surely is neat and tasty and is guaranteed to wear satisfactorily.

Special Club Offer

We will send free this beautiful Locket and Chain free and prepaid if you will secure a club of six yearly subscriptions to FARM NEWS at 25 cents each.

Farm News, Locket Dept. Springfield, Ohio

FREE-FREE

ELEGANT THIN MODEL

WATCH

This is not a cheap Dollar Watch, with a clock movement and paper dial. It is a real watch, with a jeweled lever escapement and a white porcelain dial of the very best quality. Any man or boy would be pleased to carry one of these watches. A new, 12 size thin model, the size a boy or young man should carry. Solid nickel silver case, stem wind and set, beautifully engraved stag on back and guaranteed for 10 years.

FOB A beautiful gold stamped leather fob and charm will be included with the watch if you are prompt. This is in addition to the handsome watch and is yours merely for being prompt.

We will send this elegant thin model watch as above described free and prepaid to anyone sending us a club of ten yearly subscriptions at 25 cents each. Subscriptions may be new or renewal and one may be your own. Address

FARM NEWS - - Springfield, Ohio

hole out of which it came, with never a grain of soil littering the grass between the two, and no sign of a trail. I had also been fairly bewildered by finding stones in the pile of fresh soil so large that they could not be forced back into the hole out of which I was sure they had come. On three occasions I had found such freshly dug stones, and they were all too big for the opening that led to the chipmunk's den. By what magic or sleight of hand had he got them out? From what I had seen one November, after the earth had been frozen and then thawed once or twice, I concluded that the little engineer had made a niche in the side of his hole just deep enough to make room for the passage of these broad, flat stones, and then had packed it full of earth again. In one case where a red squirrel had apparently been trying to force an entrance, such a niche was disclosed, as if the softer earth there had dropped out. But as I had found other holes the rims of which had evidently never been tampered with, and yet the dump of which held one or more stones larger than its diameter, I was hopelessly puzzled. I had found still other holes that had no dump at all—not a grain of fresh earth anywhere in their neighborhood. There is one by the roadside in front of Woodchuck Lodge now, eight feet from the stone fence, into which the chipmunk is daily carrying his winter stores, but which has not the slightest vestige of an earth-mound anywhere in its vicinity. If the squirrel ever carried the dirt away in his cheek-pockets, I might conclude he had scattered it along the roadway.

1000 Shot Steel Air RIFLE GIVEN

Hamilton 22 Cal. Hunting RIFLE Without Cost

BOYS!

We give choice of four Gunston 4 Bore Guns for selling our New "Healans"—The Salve that Heals—at 25 cents a box. WE TRUST YOU. Order 6 boxes Magic Healing "Healans" today. Sell them soon and promptly. Easy to sell because it is especially in more homes. When sold send us our $1.50 and we'll send your Gun, according to one of the four plans, as you are entitled, to our big list. Extra Gift—just for promptness, so order today.

WAVERLY SUPPLY CO., Box 201 Monongahela, Pa.

$2000 STAGE GREENBACKS 10c

Here we are boys! Have the time of your life flashing our Millionaire's Bank Roll. Wrap a genuine bill around it and make your friends stare, you'll be a popular fellow with all your friends. We send a big bundle of 20 BILLS (green and yellow backs) for only 10 cents. 60 bills and one genuine $5 BILL Mexican Villa Money for 25 cents. Don't fail to get a bundle at once. Catalogue of 1000 TRICKS, etc., FREE.

Address **D. STAR CO., 29 Clinton St., CHICAGO.**

EARN A CAMERA Fine Camera and complete outfit for selling 20 Large Colored Art & Religious Pictures or 20 pkgs. Beautiful Post Cards at 10 cents each. Satisfaction guaranteed or money returned. Order your premium today.

GATES MFG. CO., Dept. 300, CHICAGO

Watch SET W. WIND STEM WIND **FREE**

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HERMAN & CO., 2310 Lincoln Ave., Dept. 710 CHICAGO.

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Boys and girls if you want to see a regular circus get this funniest of funny clown dancers. Charlie stands 15 inches high and will dance, jig, roll his eyes, throw his arm and cane and wiggle his funny mustache as natural as life. You all know Charlie. He will entertain the whole family for weeks.

Price 10c. STAR CO. Dept. 45, CHICAGO.

FREE WATCH RING and CHAIN

We positively give free a beautiful, gold-finished, engraved American made, stem wind, stem set watch, proper size, guaranteed five years. Also a beautiful ring set with three diamond cut brilliants for selling 20 jewelry articles at 10c each. Order jewelry today. When sold send $2 we will send watch, ring, chain.

ANDER WATCH CO., Box 32 Chicago

ALL THESE FREE

Gold plated Locket set with sparkling stone and 22-inch chain, one Nethersole Bracelet to fit any arm and these 4 gold plated Rings **ALL GIVEN FREE** for selling only 12 pieces of our Jewelry at 10c each. Write for Jewelry today.

EAGLE WATCH CO., Dept. 6 East Boston, Mass.

Solve This Picture

See Our Big Prize Offer Below

A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free.

If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)

This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY

Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.

Do You Want This Pony?

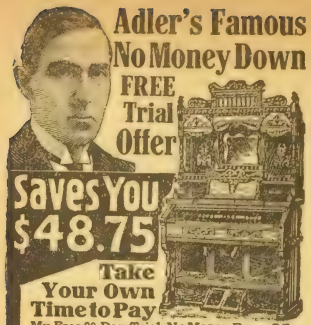
The next pony I am going to give away is a beauty—jet black, about 42 inches high, perfectly sound, plump, well trained, kind, and as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one, if you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S13, Springfield, Ohio



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Saves You $48.75

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I originated the wonderful *Adler* plan of selling organs which has made the "*Adler*" a household word; more than 85,000 of these famous organs are now in the homes of the people. The time has arrived—*this very day*—for you to send for my wonderful Free Organ Catalog. Learn how you can have the World's Best Organ—winner of highest prize at St. Louis World's Fair—*also winners of Gold Medal at National Conservation Exposition, Knoxville, Tenn., 1913*—sent to your home without paying a cent, for a

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Have it a month free. Send no money until you decide to buy. Then if you decide to keep it, pay me at your convenience in small amounts.

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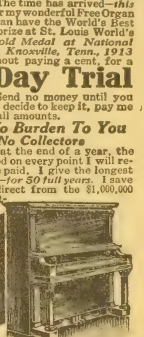
No Interest—No Collectors

You take no risk and if, at the end of a year, the "*Adler*" fails to make good on every point I will refund every dollar you have paid. I give the longest guarantee made on organs—*for 50 full years.* I save you $48.75 because I sell direct from the $1,000,000 *Adler* Organ Factory (greatest in existence.) The *Adler Plan* wrecks all organ prices.



Save You HALF

Every *Adler Piano* is shipped direct from great $1,000,000 Adler Factory to home at lowest factory prices. I save you *half*—because the *Adler Plan* absolutely *wipes out middlemen*, giving *you* their profits. 30 days free trial. Easy payment plans.

Winners of Gold Medal at National Conservation Exposition, Knoxville, Tenn. 1913.

Write for Free Organ or Piano Book. Postal or coupon.

No Deposit Asked

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Adler Mfg. Co.,
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Send me—FREE—your wonderful Organ Book ☐ } Mark which Piano Book ☐ } you desire.

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If I Send You this Suit

made to your measure, in the latest style, loose box back, would you be willing to keep and wear it, show it to your friends and let them see our beautiful samples and dashing new styles.

Could you use $5.00 a day for a little spare time? Perhaps I can offer you a steady job. If you will write me a letter or a postal card at once and say "*Send me your special offer.*" I will send you samples and styles to pick from and my *surprising liberal Offer.*

Address: L. E. ASHER, President
BANNER TAILORING CO.
Dept. 317 CHICAGO

FREE (Stock No. 1) **BIG LEVER ACTION AIR RIFLE** free for selling 20 Art and Religious Pictures at 10c packages Post Cards at 10c. Order your choice. GEO. GATES CO., Dept. 909. CHICAGO

Hammer and Saw Time on the Farm

THIS is, or should be, hammer and saw time on the farm. The ravages of rowdy winter must be repaired, protection from spring's raw winds and chilly rains must be provided for live stock, and provision must be made for the proper care of the bountiful crops we all hope to see later. It's the time to take the stitch that saves nine. Every farmer in America has some repair work or building that should be done at this season, and the man who neglects his will reap a harvest of vain regrets later on.

Building improvements, intelligently made, are such sure-fire profit-earners that they seem to me the best investment a farmer can make. They more than pay for themselves in many ways. In the first place, adequate buildings mean the proper housing of stock and crops. Furthermore, every new building brings a distinct and definite advance in value of the ground on which it stands, an increase almost invariably in excess of the cost of the structure. Moreover, good buildings are as much a part of the farm equipment as are farming implements, and materially lessen the drudgery of caring for stock and crops. And finally, I never saw a farmer who didn't take more pride in substantial buildings than in anything else on his place, unless it was thrifty, well-conditioned stock—and he can't have that kind of stock unless he has proper housing.

There is less building on most productive farms than there should be, but I don't believe that is because farmers are lacking in appreciation of the need of adequate housing facilities. Neither is it due, in most cases, to the disinclination of the farmer to spend the money. It's largely a case of procrastination, that old trouble that affects busy people everywhere, combined with a disinclination to tackle a job which is a little out of the familiar routine of everyday work. As for procrastination, you remember the old story of the Arkansas man who explained his failure to repair the leak in his house roof by saying that "when it was raining he couldn't mend it, and when it wasn't raining it didn't need mending."

His procrastination was due to laziness, of course, but there is a procrastination just as pronounced, due to the pressure of other work and the difficulty of finding time for special tasks. When stormy days come, and we lose young stock for lack of shelter, or harvest time catches us with no storage facilities for holding a crop through a period of low market conditions. We vigorously "kick ourselves" mentally. It's too late to remedy the neglect for that season—it's rainy-weather time with the Arkansas man. I think the best thing for all of us is to learn to regard desirable new buildings as necessities.

But while we should anticipate our building needs, and provide housing that the promises for the future seem to warrant, there is such a thing as overdoing the business, both in quantity and quality. When you build, build to suit your needs, not those of some other fellow whose farm structures you admire the appearance of. If you have

The POPE Lightweight $150

The Leveller of the Hills

The hills between home and town seem to melt away when you travel on a Pope Motorcycle.

Any man can run a Pope Lightweight—and many women, too. It is as simple in construction as the gas engine that pumps your water—strong and dependable.

It has plenty of power and speed for ordinary road riding—and it costs only when you run it; then but a few cents.

If you want to use a sidecar or have other heavy work to do there are other models ranging from $200.00 to $275.00 in price. They're all described in the catalog—write for it.

Nineteen Feet at a Step

On a bicycle, every time you push the pedals around once you travel nineteen feet—you take a step about seven times as long as when you are walking.

And there is nothing that will carry you at less cost than a bicycle.

But you want a wheel that will stand rough roads and rough usage—that will give perfect service for a lifetime, like a Columbia, Tribune, Cleveland, Rambler, Crescent or Pope. Every one of them is guaranteed—and backed by a concern that is the largest manufacturer of high-grade bicycles in the world.

Learn about the bicycle you're interested in by writing for a catalog.

WESTFIELD MANUFACTURING CO.
(*Successors to the Pope Mfg. Co.*)
Largest Manufacturers of High-Grade Bicycles in the World.
27 Lozier Ave., Westfield, Mass.

Learn Music At Home!

Lessons Free

New Method—Learn To Play By Note—Piano, Organ, Violin, Banjo, Mandolin, Guitar, Cornet, Harp, 'Cello or to sing. Special Limited Offer of free weekly lessons. You pay only for music and postage, which is small. No extras. Beginners or advanced pupils. Everything illustrated, plain, simple, systematic. Free lectures each course. 16 years' success. Start at once. Write for Free Booklet Today—Now
U. S. SCHOOL OF MUSIC, Box 310
225 Fifth Avenue, New York City

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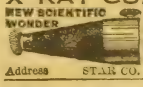
NEW SCIENTIFIC WONDER



With this instrument you apparently see the bones in your hand, lead in a pencil, see thru cloth, wood &c. Have no end of fun. Get one today. Price 15c, 3-25c

Address STAR CO. Dept. 30. CHICAGO, ILL.

FREE—6 MONTHS—INVESTING FOR PROFIT a monthly Guide to Money-Making. Tells how $100 grows to $2000—how to get rich quick and honestly. H. L. BARBER Pub. 434, 32 W. Jackson Blvd., Chicago

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

a growing family, in the house or among the farm stock, anticipate their ultimate requirements, but don't put a lot of money into material, labor and space that you cannot utilize. Plan carefully, and build economically and for service. Farm News readers are fortunate in that they live in a section of the country where good lumber is plentiful at a moderate price. And don't be deceived by that occasional remark you may hear that good lumber is "terrible high." As a matter of fact, if you took the trouble to investigate, you would find the price of lumber—that is, the sound, honest, familiar building kinds—has not advanced nearly as much in the past twenty years as has the price of your farm products.

After you have figured out just about the size buildings you need, go to your local lumber dealer and have a straight talk with him about prices. You will be surprised to find how reasonable will be the cost of material for a new barn, hoghouse, granary, feedshed, poultryhouse or other needed improvement. You'll probably find the most used wood in your locality is Southern Yellow Pine—thirty-six per cent of all the lumber consumed in the United States is that wood—and that, because it is so plentiful, it can be bought for less than almost any other wood of anything like its high quality. You have a right to congratulate yourself on that discovery, for the reason that Southern Yellow Pine, while rated as a soft wood, because it is easily worked, has a dense even grain, and contains much resin and wood oil that preserves it from decay, giving it a durability surperior to that of many hardwoods. Because of its strength, it is used more than any other wood for heavy structural timbers, and it finishes so nicely and takes paint so well that it is suited for even the finest exterior and interior trim, as well as for framing. It is an ideal wood for farm buildings, a fact that has been discovered by the farmers of Europe as well as of this country. If you happen to have the simple equipment for treating lumber with creosote oil by the "open tank" method, you can build with Yellow Pine so treated with the assurance that you are using a material that will still be in service when your grandchildren are running the farm. In its untreated state it will give long and honest service, but if you expect to get maximum year you must protect it with paint and from contact with the soil, as you must any other wood.

I am a crank on Southern Yellow Pine for farm building, but only, I believe, because I have used it and studied it. You may be so situated that you can more readily obtain some other high-class lumber for less money. But wherever your place of residence it will pay you to study the relative merits of woods for your uses on the farm—it means a saving, if not in first cost, certainly in the final accounting. Anyhow, get out the hammer and saw and go to it, get ready for the biggest and best year you have ever known on the farm, and prepare to get a dollar in return for every dollar's worth you produce on your land.

Made-to-Measure

Express Prepaid $2.75

Pants cut in the latest style. Made-to-your individual measure. Fit, workmanship and wear guaranteed.

No Extra Charge
for peg tops, no matter how extreme you order them.

Agents Wanted
A good live hustler in every town to take orders for our celebrated made-to-measure clothes. Samples of all the latest materials FREE.

We Pay Big Money
to our agents everywhere. Turn your spare time into cash by taking orders for our stylish clothes. Write today for beautiful FREE outfit.

The Progress Tailoring Co., Dept. 684, Chicago

More Vitality For You

Our Magnetic Abdominal and Kidney Vitalizer does what all the medicine on earth cannot do. It gives Life, Tone and Vigor to the blood and nerves, overcoming congestion, soreness and pain, by rapid circulation.

Be Well and Strong
through this wonderful invention scientifically constructed to flood the system with magnetism which gives Strength to the Back, Kidneys, Liver, Stomach and Bowels, instilling buoyancy, tone and rejuvenating vitality into the whole organism making you feel like a new being.

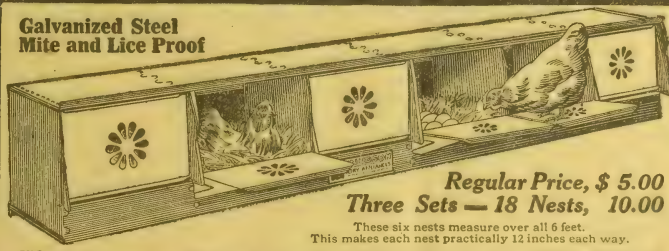
MADE FOR MEN AND WOMEN

Send for free book and full information. Describe your case fully. We advise you free how to apply Magnetism for treating any form of weakness or disease.

THACHER MAGNETIC SHIELD CO.
Suite 879 110 So. Wabash Ave., CHICAGO, ILL.

6 Lice-Proof Nests $3.50

Galvanized Steel Mite and Lice Proof



Regular Price, $ 5.00
Three Sets — 18 Nests, 10.00

These six nests measure over all 6 feet.
This makes each nest practically 12 inches each way.

Fire Proof
My lice proof nests are made of galvanized steel. They can neither burn nor rust. You can build a fire right inside the nests—but you can't burn them. They will last for years and years. The galvanized steel is of extra heavy weight. Each joint is carefully and securely fastened with strong bolts.

Rat Proof
Rats can't gnaw their way into my galvanized steel nests. There is no danger of rats getting in and eating the eggs. It's just like keeping your eggs in a safety deposit box. There is a door for each nest that can be closed—or if you wish—left open to furnish a roosting place for the hen.

Lice Proof
The hens that are persecuted with lice aren't the hens that lay. Their vitality is being sapped. And it's in the old-fashioned wooden nests that lice find breeding places.

Lice can't live in my galvanized steel nests. There are no places for them to hide. To clean the nests is as easy as pouring water out of a pail. The whole series of six nests hangs on two nails.

Mite Proof
Lice lay their eggs in the cracks and joints of wooden nests—but there are no cracks in my galvanized steel nests. Every joint is mite proof. The danger from profit-eating lice is eliminated by this great boon to poultry raisers. And the nests are so light that they can be easily handled by anyone.

Free!

Write for free book and explanatory literature, if you want to know more about these lice proof nests. I'll gladly send you the book and literature, free and prepaid. Send coupon now.

30 Days' FREE Trial

To E. J. REEFER,
The Poultry Expert
3563 Reefer Building
Kansas City, Missouri

Enclosed please find $3.50, for which please send me a series of six of your galvanized steel, lice proof nests. If, after using the nests for 30 days, I am not absolutely satisfied, I am to return the nests to the factory and you are to refund my money in full without question. The nests are to be sent by freight at my expense.

Name .....

Address .....

If you wish 3 sets of nests (18 nests in all) enclose only $10.00

Send the Coupon

30 Days' Free Trial

I want to send you a set of 6 nests—*on approval*. See the nests and use them for 30 days before you decide to buy. Note how carefully and strongly they are made. Notice that each nest is completely separated from all others. See *how* and *why* they are lice proof—fire proof—rust proof. The material is extra strong galvanized steel—and they will last a lifetime. Send me your order today. After you have seen the nests for yourself and after your hens have used them for 30 full days—then if you are not more than satisfied, return them at my expense and I will refund every cent of your money. The 30 days' free trial does not cost you a penny. For the sake of your poultry profits—send coupon now.

E. J. REEFER, The Poultry Expert, 3563 Reefer Bldg., Kansas City, Mo.

Evans Art Pianos and Players

Factory to You

$125

and up can be saved by my plan of selling direct from my factory to you. I can save you from $125 to $250 on an *Evans Artist Model Piano or Player.*

Freight Paid The easiest kind of terms, weekly, monthly, quarterly or yearly payments to suit your convenience. **All middlemen, jobbers, dealers and agents profits cut out.** These are some of the reasons why I can sell the **Evans Artist Model Pianos** for such little money. Let me send you the other reasons.

30 DAYS FREE TRIAL

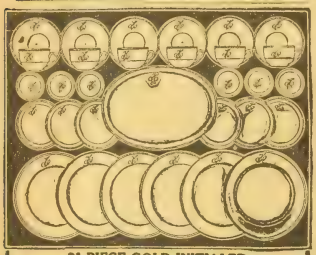
If you are not entirely satisfied, we will take it back without any cost to you—I are the sole judge to decide.

Music Lessons Without Cost

We will give a two years course of piano instruction free. Ask about our insurance plan.

STORY & CLARK PIANO CO.

F. O. EVANS, Gen. Mgr., Dept. A-46 Chicago



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DINNER SET FREE

For A Few Hours Easy Work

Every piece pure white, high grade china, blue edge and gold initialed. One of the richest looking, most stylish Dinner Sets on the market. Absolutely up-to-the-minute and of undisputable quality. Guaranteed not to craze. Will add beauty to any table. Get this set. Merely give away FREE 12 Beautiful Art Pictures 16x20 inches [sold for $1.00 each in many stores] with 12 cans of White Cloverine Salve, which you sell at 25c each. Millions using it for cuts, eczema, catarrh, colds, piles, burns, etc. Send us the $3.00 collected and the set is yours. We've been making these offers for 20 years. The Wilson plan is the easiest and absolutely square. No money required. Simply send name and address. Pictures and Salve sent promptly prepaid.

WILSON CHEMICAL CO. Dept. 223 TYRONE, PA.

COMFORT CHEMICAL CLOSET

ODORLESS SANITARY GERM-PROOF

Every home without sewerage needs one. Most convenient, meritorious home necessity in a century. A boon to sick people. Can be placed anywhere in house.

Makes Outdoor Privy Unnecessary

Put a warm Comfort Toilet in your home; a guarantee of healthy, sanitary conditions. Germ-life killed by chemicals in retort. Emptied once a month—no more trouble than throwing out coffee grounds. Needs no other attention. Boards of Health endorse it. Write now for literature, prices, etc.

AGENTS CAN EARN $10 TO $25 DAILY

Here's something going like a prairie fire. Best thing that ever headed your way—big chance to clean up $25 a day if you will hustle. Sale sure in every home without a toilet. Hardly any limit to your earning. Don't sleep over this. Send postal by next mail. Biggest money-making easiest selling proposition ever put up to an agent. Exclusive territory. Write now for agents proposition.

Comfort Chemical Closet Co.

983 Factories Bldg. Toledo, Ohio

FREE

Stem wind and set watch, guaranteed 5 years, for selling 20 art and religious pictures or 20 pkgs. post cards at 10c each. Order your choice.

GATES MFG. CO. Dept. 409 Chicago

"Tricks In All Trades"

But in Buying a Horse There Seems to Be More Tricks Than in Any Other Trade

By J. R. Anson

A HORSE trader says you've got to know the "tricks of the trade" if you want to get the best of it in a horse trade. But that is not what we want. What we want is sufficient knowledge or understanding about horses and tricks that some horse dealers will get off on you, if they can, that the horse trader will not get the best of us. When we go to buy a horse we are depending on the seller's integrity, and must rely on his word, whatever that amounts to, if we do not possess this knowledge. If all men were honest and truthful it would not be so necessary.

When you buy a horse you do not only want it to be considered practically sound, but you want to be positive from your own observation. A horse is only considered practically sound when it possesses no disease, deformity or vice that will interfere with its general and special usefulness. To be able to detect these disqualifications to the perfectly sound horse is the knowledge we want when buying a horse.

As a matter of economy, a person who contemplates buying a horse, if he is not thoroly familiar with the subject himself, will usually employ an expert to go with him, and get the benefit of his superior knowledge in the selection; or he will purchase of some well-known dealer whose judgment and whose "word" is implicitly to be relied upon.

Being too certain of his ability to judge horses, and to determine their soundness or unsoundness, has led many a man into being deceived to his loss. The ordinary individual is likely to pride himself upon his ability as a judge of horses, and yet there is probably no one experience in which individuals are more likely to be deceived than in this, often to our chagrin and mortification at being beaten.

As a general thing the purchaser sees a horse at its very best as regards appearance, condition, speed, gait and freedom from visible defects and vices, especially if a date has been set for the purchaser to arrive. In the interval of his time the "tricks of the trade" will have had time to develop and exert some of its baneful influence. This should be taken into consideration, and an estimation of the value of the animal made accordingly. An unexpected, or perhaps inopportune, arrival to view and inspect the horse would to some extent disconcert such tendencies if any had been intended. Now, I don't want to lead the reader into believing that all horse dealers are dishonest, or that dishonesty is the rule. I am simply giving out hints, a wink to the wise is sufficient, so that you may be on your guard against the possible dishonest dealer that you may flay him at his own game.

A trio of prize-winning Percheron stallions

An excellent judge of horses once said: "If the owner or bystander calls my attention to a possible defect about the horse's head I always make it a point to give the opposite extremity a most thoro examination." This is one of the many "tricks of the trade" frequently practiced by dishonest dealers to call a man's attention to a part he knows to be perfectly sound in order to divert his attention from an unsoundness in another place. The truth of this statement I can verify by an experience of my own, in which case

special attention was called to the eyes in order to keep my eyes from falling on the extreme crookedness of the legs, or his own crookedness. Bright eyes will never offset the evil of crooked legs, splints, curbs, etc.

It is a good plan to examine horses in the stable in their ordinary position and conditions first, then take them out where the light and other conditions are favorable, and examine every part of the animal until one is perfectly satisfied that it's altogether free of defects, or that it possesses no defect vital to its usefulness, or if it has blemishes, and you still insist upon having the horse, you can make your bargain accordingly.

It is best not to buy a horse in harness. If he has any defects you can better see them when he is unencumbered. Yet it is well to try him in harness to detect any tendency to tricks or vices otherwise not manifested. Some vices only show up while the horse is in harness or is being driven. Let the horse go without being led, and if he will walk right into everything you will know he is blind or very defective of sight, no matter how bright or clear his eyes appear to be. Take him by the head and force him to move backward. He may show a weakness or tricks in that way when he does not in any other. Better to try him from all sides.

Halter pulling is a bad habit in a horse. Watch out for it. Go unexpectedly into the stable and see how he ordinarily stands in his stall. Look at him from the front to see if he will pull away from you, and consequently hard on the halter. This habit is often caused by inhuman treatment. It may be cured by a change of masters. However you run a risk.

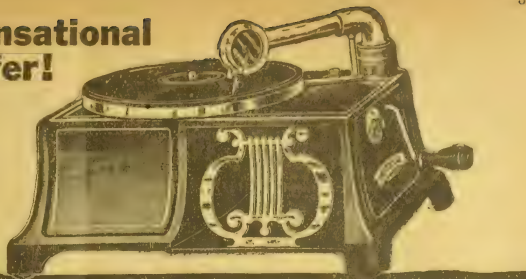
Look at the manger. If it is all gnawed up you will know the horse has the gnawing habit or is a cribber, sometimes important evidence of indigestion or worms.

You want to be able to go in and out of a stall without being bitten or kicked—bad habits which you are seldom able to correct. Ask the horse to step over in his stall, if he has spavin or chorea he will click up his hind leg and you will notice his tail and muscles quiver.

When the dealer is anxious to show the horse on the run, in fact keeps him stirred up by the cracking of the whip, rattling of a latch or stable door, be convinced there is some defect or defects he is trying to hide by so doing. Let the horse stand perfectly at ease and that defect will be sure to manifest itself so that you can easily detect it. Chorea and spavin lameness are not noticeable when the horse is in motion.

An irregular pulse is a strong symptom of grave disease. In a healthy horse the pulse beats 32 to 38 per minute, but 48 to 50 per minute may not denote disease in some horses. To take the pulse place the forefinger of the right hand across the artery below the jaws, holding the watch in the left hand and count the beats. A rise of temperature above 100 degrees denotes that something is wrong. Cold legs and ears and cold sweat are bad symptoms. Difficult and quick breathing indicate lung trouble, and snoring is caused by disease of the brain. A rough coat is a bad symptom denoting indigestion.

Sensational Offer!



No Money In Advance

We offer you the most sensational, the most astoundingly liberal offer ever made in the history of the Phonograph business. We will send to you without one penny in advance, without one bit of obligation on your part whatsoever, this remarkable Universal Phonograph—this startling new invention—this marvelous all metal machine which is revolutionizing the talking machine world. Just 10,000 of these wonderful Phonographs have been set aside to be sent out on this amazing advertising offer which is made in order to get a machine in each locality of the United States immediately.

Never before—and without doubt never again—will an offer so liberal be made. Not one cent in advance—no references asked—no C. O. D.—no delay—no red tape—not even your promise to keep the machine. The coupon below is all that is necessary. And with this remarkable machine will be sent eight splendid selections—the regular 65c double disc Columbia records. Play this grand Universal in your home with the superb selections sent with it—give the Universal a thorough ten days' test and then, if after a thorough test and examination you believe it to be the most remarkable, the most wonderful phonograph you ever heard, simply

Pay Only $1.00 In Ten Days

and pay balance of our Special Limited Introductory Bargain price of $16.50 in small monthly payments of $1.65 each. If for any reason you do not want to keep the Phonograph and records simply return to us within ten days after receipt at our expense and you owe us nothing—without the Records the Phonograph furnished for only $13.90.

Think what a remarkable Phonograph this one must be in order to stand such a critical test as this. Songs, Speeches, Instrumental Music, Band and Orchestra Selections, each voice male or female, each instrument brought out in an actual reproduction exactly as the original, not one sound or syllable blurred or indistinct—no screeching or buzzing. Gorgeous Harp frontispiece and all trimming beautiful silver effect, not one particle of tin or wood in its entire construction; base 15 inches wide by 6 inches high, 11½ inches deep; weight 17 lbs; has exclusive automatic start and stop. Plays ALL makes and sizes of disc records.

Eight beautiful selections—the regular 65 cent double disc Columbia records—will be sent to you on this offer. A complete list of hundreds of the most famous selections will be sent along with the machine and records. You have the privilege of exchanging immediately any or all of the 8 selections sent to you for those of your own choice.

NO REFERENCE ASKED

Remember, no reference asked. On receipt of the coupon we simply ship the phonograph and records right out to you. If you decide that you want to keep Phonograph and records send us only $1 within ten days and pay the balance at $1.65 a month until you have paid us our Special Introductory Bargain Price of only $16.50. Otherwise return them AT OUR EXPENSE.

Do not delay in this matter. Send coupon today then examine and test this beautiful, perfect, new Universal Phonograph in your home on this liberal No Money In Advance offer. This offer is limited—immediate action is necessary—mail the coupon today.

UNIVERSAL PHONOGRAPH CO.,
133-37 West 39th St., Chicago, Ill.

Send No Money

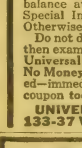
Universal Phonograph Co.,
133-37 West 39th St., Chicago, Ill.

Send at once your wonderful new Universal Phonograph and 8 selections of the regular 65c Double Disc Columbia Records. If satisfactory after examination, and I decide to keep them I will send you $1 in ten days after arrival. I then agree to pay the balance of $16.50 in monthly payments of $1.65 each until paid. Otherwise I will return Phonograph and records to you at your expense.

Name.....

Address..... Farm News

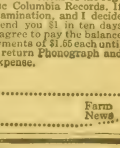
"AMERICA FIRST" BUTTONS FREE



FREE FREE

We will be pleased to send you, free and postpaid, ten of these patriotic buttons, in three colors, red, white and blue, now being worn on the coat lapels of thousands of American citizens everywhere, if you will send us fifty cents for a trial year's subscription to National Monthly, a big, beautifully illustrated magazine of current events, edited by Hon. Norman E. Mack, former chairman of the Democratic National Committee. National Monthly will be especially interesting to every American citizen during the entire presidential year of 1916.

NATIONAL MONTHLY, 173 Main St., BUFFALO, N. Y.



FREE FREE

FACTORY to RIDER

1916 Model

Saves you big money. Buy direct and save $10 to $20 on a bicycle.

RANGER BICYCLES in 24 styles, colors and sizes. Greatly improved; prices reduced. Other reliable models, $11.95 up.

WE DELIVER FREE to you on approval and 30 days trial and riding test.

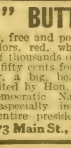
Our big **FREE catalog** shows everything new in bicycles and sundries. A cyclopedia of information which every person should have. Write for it.

TIRES, lamps, wheels, parts and supplies at *half usual prices.* A few good second hand bicycles taken in trade $3 to $8 to clear.

Do not buy a bicycle, tires or sundries until you write and learn our *wonderful new offers,* low prices and liberal terms. A postal brings *everything. Write now.*

MEAD CYCLE CO. DEPT. T-128 CHICAGO

16 Exquisite Art Pictures FREE!



Big Bargain For Picture Lovers

This wonderful collection of truly exquisite Fine Art Pictures is the biggest value you ever saw. Will beautify any home. Well worth framing. Everybody admires them. Ten exquisite colors. Marvelously beautiful. Famous subjects: Rock of Ages, St. Cecelia, Family Record, Lord's Prayer and Ten Commandments, God Bless Our Family, Jesus the Shepherd, Guardian Angel, Last Supper, Happy Family, Marriage Certificate, Evening Prayer, Christ and Peter, His First Ride, Shepherd and His Herd, Two Fruit Pictures. Every one a gem. Do not delay.

All sent **FREE** and postpaid for only 4 cents in stamps. Order quick and get some extra good news. Address

PRESS ART COMPANY, 143 W. Ohio St., Chicago, Ill.

GOLDEN MORTGAGE-LIFTER CORN

No corn has given better satisfaction or yielded better grain. Has gained great favor among corn growers everywhere. The large amount of corn produced on so small a cob surprises everyone. This corn is **the corn to grow for profit. It is near all corn. Early. Prolific.** Strong, stiff stalks and stands up well. Outyields any other early corn. Has the **smallest cob** of any large grain. Rich in oil. Will fatten faster than any grain grown. Suits the grain dealer and tops the market. Takes first prize wherever shown. Best 100-day corn in existence. Its broad, closely-set leaves make it a valuable ensilage and fodder corn. It will suit the corn growers. We want every farmer to plant this wonderful corn. It husks so easily there will be no sprained wrists. Yields 70 to 100 bu. per acre. Others ask $3.50 per bu.; we ask only $3.00 per bu. and furnish sack free. Corn is carefully selected, nubbed, tipped, shelled, graded and ready for planting.

A. D. HACK & BRO.

Dept. 1. **New Canton, Ill.**

Send To

THE FARM HOME

Dept. 2 **Springfield, Ill.**

This paper reaches 375,000 readers the first of every month, all concentrated in Illinois.

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

CABBAGE A PROFITABLE CROP ON LARGE FARMS

In traveling thru the state of Ohio, one frequently finds fair-sized farms which are devoted primarily to some crop which require rather intensive culture. An example of this is seen on Mr. I. J. Jordan's farm near Clyde, Ohio, where a specialty is made of cabbage growing.

Altho Mr. Jordan operates a garage at Clyde, he finds time to superintend his farmwork. He operates two farms of 80 acres and 200 acres, respectively, the former having 29 acres in cabbage and the latter 10 acres.

Mr. Jordan has grown cabbage successfully for the past 27 years and is thoroly acquainted with the subject. He is a strong advocate of the use of high-grade commercial fertilizers, and makes the statement that his cabbage yields would be about one-half of what they now are if he did not use them. He also says that he has increased his corn crop one-third thru their use.

His method of culture is as follows: All the farmyard manure available is used on the cabbage land, and is made to go as far as possible, rather than having it put on in heavy applications on a small portion of the land. Once in every four years clover is grown on the land, the second cutting being turned under, the object being to keep the soil in good physical condition and to increase its supply of organic material. The land is generally plowed in the spring, and it is then worked up into a loose, friable seed-bed. By means of the fertilizer attachment on the grain drill, about 300 to 400 pounds of a high-grade fertilizer is applied to the acre.

The cabbage plants, "All Season" variety, are then set out and are kept thoroly cultivated by means of a one-horse cultivator. In harvesting the heads are cut, and thrown into windrows.

Mr. Jordan's cabbages are of an excellent quality, and he generally obtains a very good price, sometimes as high as $24.00 per ton. In recent years he has had considerable trouble with the yellow blight, and so far has not been able to correct the evil. He does not use anything for worms and insects.

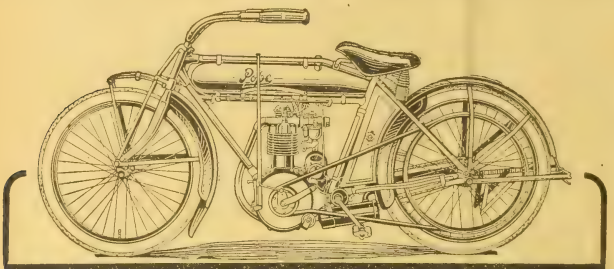
HOW TO REDUCE THE GRAIN BILL

There are three errors in feeding grain to cows, namely feeding the wrong sorts to the wrong kind of cows, feeding the right sorts to the wrong kind of cows, and feeding the wrong sorts to the right kind of cows. The first named error is extremely common. The feeder who is not informed as to choice of the right grain feeds is apt to be indifferent to the grading up of his herd. The second is less frequently met with, yet is common, for while many thru experience have learned that milk is no more to be made from oat hulls than are figs from thistles, they have not grasped the hard proposition as to the determination of cow performance. In the third case the man with good cows makes a mistake in their feeding, but this mistake is not nearly so serious as the two first mentioned.

The following prescriptions may be recommended which directly or indirectly will reduce the grain bills. First the substitution of profit-making for loss-making cows through attention to breeding, adequate feeding, and weighing and testing of the milk. Often this is a slow, but always a desirable, and ultimately a money-making proposition. The study of the nutritive values of the sundry grain feeds by-products, etc., is necessary. The appreciation of the fact that the amount of digestible nutrients, and particularly of protein, is the main consideration which should govern purchase.

To buy feeds low in protein to add to the roughage grown on the farm, all of which save the clovers and early cut hay, is to overload the ration with one class of nutrients so that it is fed wastefully, and to underload it with another class, one which moreover is essentially concerned with the adequate maintenance of the milk-making function.

The growth of more alfalfa and clover is an exceptionally good plan in reducing the grain bills. I consider alfalfa the greatest feed crop raised on the farm. The growth of more corn will help in the making silage of mature, glazing ears in modern round and relatively deep silos. The growth of more soiling crops, as oats and peas or Japanese millet, and the feeding of summer silage, will bring quick returns. Obedience to these commandments tends toward the reduction of the grain bills.



To Be Given Away

Not to cost you one cent. The greatest opportunity ever given to get this high grade, latest model 1916 Motorcycle. This Motorcycle is the famous "Lightweight Pope." Contains all the newest, modern improvements, and has stood the severest tests for six years. It is a beautiful, speedy machine, brand new and is standing on our floor, crated, already for immediate shipment. Do you want it? You can get it, and it will not cost you a cent, and we will prove it to you. All we ask in return for this handsome machine is that you will agree to do us a little favor now and then during spare time. A penny postal card will bring our wonderful free proposition to you by return of mail. We are anxious to tell you what it is, so—

Send Your Name and Address

A postal will do. Simply say "I want a Motorcycle"—or cut off the coupon below, sign your name and correct address and mail to us. Sending your name will not obligate you in any way for anything. We just want to send you our big free offer. If you want a Motorcycle free of charge, here's your chance, if you act quickly. No money required. No charges, or obligations. Nothing to buy. Do you want it? Then do this—

Cut Off and Mail This Coupon Today

Motorcycle Distributor,
Dept. 237 Springfield, Ohio.
Gentlemen:—
Please send me, without obligation, full particulars of your free Pope Motorcycle offer.

Name .....

Full Address.....

.....

A Genuine Rupture Cure Sent on Trial to Prove It

Don't Wear a Truss Any Longer

After Thirty Years' Experience I Have Produced An Appliance for Men, Women and Children That Actually Cures Rupture

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It is instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

Pennsylvania Man Thankful

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—Perhaps it will interest you to know that I have been ruptured six years and have always had trouble with it till I got your Appliance. It is very easy to wear, fits neat and snug, and is not in the way at any time, day or night. In fact, at times I did not know I had it on: it just adapted itself to the shape of the body and seemed to be a part of the body, as it clung to the spot, no matter what position I was in.

It would be a veritable God-send to the unfortunate who suffer from rupture if all could procure the Brooks Rupture Appliance and wear it. They would certainly never regret it.

My rupture is now all healed up and nothing ever did it but your Appliance. Whenever the opportunity presents itself I will say a good word for your Appliance, and also the honorable way in which you deal with ruptured people. It is a pleasure to recommend a good thing among your friends or strangers. I am,

Yours very sincerely,
JAMES A. BRITTON.
80 Spring St., Bethlehem, Pa.

Confederate Veteran Cured

Commerce, Ga., R. F. D. No. 11

Mr. C. E. Brooks,

Dear Sir:—I am glad to tell you that I am now sound and well and can plough or do any heavy work. I can say your Appliance has effected a permanent cure. Before getting your Appliance I was in a terrible condition and had given up all hope of ever being any better. If it hadn't been for your Appliance I would never have been cured. I am sixty-eight years old and served three years in Eckle's Artillery, Oglethorpe Co. I hope God will reward you for the good you are doing for suffering humanity.

Yours sincerely,
H. D. BANKS.

Others Failed but the Appliance Cured

C. E. Brooks, Marshall, Mich.

Dear Sir:—Your Appliance did all you claim for the little boy and more, for it cured him sound and well. We let him wear it for about a year in all, although it cured him 3 months after he had begun to wear it. We had tried several other remedies and got no relief, and I shall certainly recommend it to friends, for we surely owe it to you.

Yours respectfully,
WM. PATTERSON,
No. 717 S. Main St., Akron, O.

The above is C. E. Brooks, inventor of the Appliance, who cured himself and who has been curing others for over 30 years. If ruptured, write him today at Marshall, Mich.

Cured at the Age of 76

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—I began using your Appliance for the cure of rupture (I had a pretty bad case) I think in May, 1905. On November 20, 1905, I quit using it. Since that time I have not needed or used it. I am well of rupture and rank myself among those cured by the Brooks Discovery, which considering my age, 76 years, I regard as remarkable.

Very sincerely yours,
Jamestown, N. C. SAM A. HOOVER.

Child Cured in Four Months

21 Jansen St., Dubuque, Ia.

Brooks Rupture Appliance Co.

Gentlemen:—The baby's rupture is altogether cured thanks to your Appliance, and we are so thankful to you. If we could only have known of it sooner our little boy would not have had to suffer near as much as he did. He wore your brace a little over four months and has not worn it now for six weeks.

Yours very truly,
ANDREW EGGENBERGER.

Ten Reasons Why

You Should Send for Brooks Rupture Appliance

1. It is absolutely the only Appliance of the kind on the market today, and in it are embodied the principles that inventors have sought after for years.

2. The Appliance for retaining the rupture cannot be thrown out of position.

3. Being an air cushion of soft rubber it clings closely to the body, yet never blisters or causes irritation.

4. Unlike the ordinary so-called pads, used in other trusses, it is not cumbersome or ungainly.

5. It is small, soft and pliable, and positively cannot be detected through the clothing.

6. The soft, pliable bands holding the Appliance do not give one the unpleasant sensation of wearing a harness.

7. There is nothing about it to get foul, and when it becomes soiled it can be washed without injuring it in the least.

8. There are no metal springs in the Appliance to torture one by cutting and bruising the flesh.

9. All of the material of which the Appliances are made is of the very best that money can buy, making it a durable and safe Appliance to wear.

10. My reputation for honesty and fair dealing is so thoroughly established by an experience of over thirty years of dealing with the public, and my prices are so reasonable, my terms so fair, that there certainly should be no hesitancy in sending free coupon today.

Remember

I send my appliance on trial to prove what I say is true. You are to be the judge. Fill out free coupon below and mail today.

Free Information Coupon

C. E. Brooks,
1779C STATE ST.,
Marshall, Mich.

Please send me by mail in plain wrapper your illustrated book and full information about your Appliance for the cure of rupture.

Name .....

City .....

R. F. D. .....State.....

I Am Making Money for Men – Are You One of Them?

I ran a full page advertisement in this paper in February. I was looking for men—for money-makers. It was on the 2nd cover. Did you see it? Did you answer?

Many hundreds of men answered and are now working with me. Some of them are going to be big money-makers. Some will fail. That's natural. The big thing for you to think of is that I want to hear from you. I've got some straight, money-making talk for you and I want to get it off my chest.

The Chance Is There

It Is Alive Now—Don't Wait—Write

I want you to work with me in the selling of a marvelous tool. That doesn't sound so wonderful, eh? That's because you don't know the story. You don't know how just common everyday men like you and me are making $25 to $50 a day.

That's the big story. The tool looks simple enough in the picture, but it's a single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter and alligator wrench, as well as a lot of other things. Farmers, teamsters, auto owners, mechanics, contractors and builders buy it on sight. But never mind that now. You write. I'll tell you the big story of profits. Don't make a fuss about it. Just send me your name and address on a post card. Address

P. J. HARRAH, President

The Harrah Manufacturing Co. 32 Main St. Bloomfield, Indiana

This Knife FREE

Your Own Name On It

New transparent handle showing your own name underneath, same as if you were looking through glass. The finest knife you ever saw in all your life. Three and one-half inches long. German silver tips, brass guides and rivets. Two fine razor steel blades of the very best quality. It is a beauty and will last you for years. We will give this knife free and send it postpaid to anyone sending us six yearly subscriptions to FARM NEWS at 25 cents per year.

FARM NEWS SPRINGFIELD, OHIO

OVERLAND AUTOMOBILE FREE

You can become the owner of this $750 Overland Auto, latest 1916 Model, without one cent of cost. If you want a car send us your name asking all about our wonderful plan by which we give automobiles away. Send no money—just your name.

CORN BELT AUTO CLUB, Waterloo, Iowa
696 Jefferson St

$750 OVERLAND

2 Months On Trial FREE

To introduce our great twice-a-month, dollar magazine. This offer is good only to those living on a farm or interested in fruits and gardening. We will also send folder showing how you can get six big collections of trees and plants free of charge. Offers include great J. H. Hale Peach and other new fruits. Address

THE FRUIT-GROWER, Box 1141, St. Joseph, Mo.

REVOLVER 10¢

Smokeless, Loud Report. Requires no caps or cartridges. Shoots 1000 or more times. Absolutely harmless. No smoke, dust or dirt. Safe in hands of smallest child, yet makes report as loud as ordinary cartridge. Send quick—greatest novelty out. Sample 10c, 3 for 25c.

W. MAGE, 337 W. Madison St. R168 CHICAGO

Managing the Corn Crop

(Continued from Page 5)

tance. Corn can never again be cultivated so cheaply as before it is planted. The weeds that have started into growth should be destroyed before the planter passes. Weeds that are left standing at the time the corn is planted have a long start in the race with corn. In fact they should never have an opportunity to get more than a two or three day start of the corn.

Corn should not be planted until the soil is warmed up and indications point to settled weather. Many of the common weeds grow at a temperature much lower than corn can stand to advantage. When the corn starts slowly and the weeds grow rapidly there is sure to be no end of trouble. The task of cultivation is doubled, so that one is behind with his work during the whole season. Corn planted in well-tilled soil, which is warm and free of weeds, has every advantage. A vigorous early start is the first essential of a bumper crop.

The planter has been perfected so that there is no excuse for doing an imperfect job. By standardizing the size of the kernels, and doing a little experimenting to determine how many kernels are being dropped before the planter is started, one may feel sure of the machine doing good work with seed of any size. But this experimenting and standardizing of the seed should be done a few days or weeks before starting the planter to work. With everything ready, so that there will be no let up in the work, much of the trouble so common on many farms at planting time will be avoided. One must always be on the job and watchful of the planter's work, and in doing so he must not forget to keep the seed boxes full, noticing occasionally to see how many kernels they are dropping in each hill.

Care should be taken at the ends to avoid any backward movement of the planter to stop up the bottom of the heel with dirt to interfere with the free delivery of the hills. Ordinarily corn should be planted about 2½ inches deep. If planted deeper many plants will fail to reach the surface, especially, if a heavy, cold rain follows the planter. The man who is drawing the team on the planter should bear in mind that the rows he is planting across the field last the entire season and mark the work as slovenly and indifferent or painstaking and accurate.

The summer's work in the corn field is a battle with weeds and drouth. A decided advantage may be gained by harrowing the field soon after it is planted. Every field may be benefitted by a thoro harrowing within a week after it is planted. Indirectly this aids subsequent cultivation by filling up the wheel tracks of the planter, so that the shovels can run closer to the plants without rolling huge chunks of dirt over them. Good stands of corn are so difficult to secure that the use of the harrow after the corn is above the ground should not be encouraged. A weeder will do just as effective work without dragging clods, corn butts and bits of trash over the tender plants. The weeder should be used early to prevent the weeds getting a start, and not later when the deeper work of the cultivator is needed to destroy them.

The first cultivation of the corn is the most important in getting ahead of the weeds. Weeds that are not destroyed at this time are sure to cause trouble later in the season, especially, if they are growing close to the hills. The shovels should run close to the hills and sufficiently deep to stir the soil thoroly. Later cultivations should be more shallow close to the hills. The young plants have few long roots, so they suffer little injury from deep cultivation that would seriously interfere with the root development of larger plants later in the season. By running the shovels three or four inches deep, and as close to the hills as possible without injuring the plants, one can get the soil in condition so that the plants will develop enormous root systems and make a rapid early growth. Do not run the shovels too far from the rows and depend upon the inward falling of loose dirt to kill the weeds about the hills. Not all of the weeds will be covered, and those that are covered will not all be destroyed. It is comparatively easy to destroy the weeds in the center of the row later in the season, but not so with those about the hills.

The second cultivation should begin as soon as the first is finished. Unless rains interfere with the work, so that a desperate fight must be waged with the weeds, small shovels should be used. The smaller shovels that do effective work and keep the soil loose and friable give the best results on the ordinary corn field. To meet the requirements of the different cultivations, many corn growers have cultivators with several sets of shovels that may be changed when the occasion demands. The cultivation of corn requires implements that are adapted to the crop at different periods of growth. Conditions are so seldom alike that one must exercise judgment in every step of the work. Whatever the type of the cultivator used, one must bear in mind that under the ground is a network of roots that are gathering plantfood, and that the wholesale destruction of these roots means a big decrease in the yield.

Three results are gained by cultivation, i.e., killing weeds, making plantfood available, and conserving soil moisture. The killing of weeds is very important; they exact a heavy toll when they gain a foothold in a field. Manipulating the soil reduces the refines the particles and makes plantfood available. Thoro cultivation develops a wonderful amount of plantfood.

Next is conserving moisture. We all know better than we do. Experience teaches us that moisture has a limiting effect upon yields of corn. Tillage is the only successful method of combatting serious effects of long periods of drouth. The proper way to check the loss of moisture is to keep a mulch of loose soil on the surface by going over the field after every rain to prevent a hard crust from forming.

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CLEANS WITHOUT SCOURING

Makes soap without boiling. Turns well water into rain water. Makes cheapest, most efficient washing fluid — to be used without powders, chips, etc. Supreme as disinfector and vermin exterminator. Ask for booklet of other uses.

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POWERFUL AIR RIFLE Length 32 inches. Working parts of the best grades of steel. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one. IT COSTS YOU NOTHING to try, as we take back those you can't dispose of. Send no money, just your name and address. M. O. SEITZ, 3D43 CHICAGO.

LOOK! This is H. D. George, of North Carolina

We gave him this New 1916 Overland Touring Car, fully equipped for collecting only $291.00 for us! So simple! So easy! Why be without one?

Do You Want One Like It?

Our plan is new and unique, and shows how you may obtain a fine New 1916 Overland without costing you a cent.

The automobile that we sent to Mr. H. D. George, N. C., was a Brand New, 1916 Overland. It did not cost him a cent. We even paid the freight. Here's what he says in a letter to us:

"I have just gotten my Overland car, which was given to me by you, and I must say this is the best gift I have ever received for so small an amount of work. It certainly is a beauty, and I hope to keep it so for many years. In return, please accept my many thanks. This car is a great deal nicer and better than I expected to get."

If you want an automobile, we offer you an opportunity that you should not overlook. Think of it! Mr. George was able to obtain this beautiful car for doing just a little favor for us now and then. Why not obtain this one that we are about to give away for even a less effort. Mind you, it does not cost you a penny! Not one cent! All we ask you to do is to join us and follow our instructions, devoting a little of your spare time to work that we wish you to do. It will not interfere with your regular duties, and we will pay you for your efforts. You have as good, if not a better chance to obtain this 1916 Overland. Don't say it is not possible! You may be just the fortunate one! The 1916 Overland Automobile that we will give away will be Brand New, Direct from the Factory, fully equipped with Electric Starter, Top, Windshield, Kit of Tools and everything that is necessary. The equipment is complete.

Will you join us now? We furnish everything. Simply send us your full name and address, and say you want an automobile and we will immediately send you, by return mail, full particulars, telling exactly how this Brand New Overland Automobile will be given away. Our plan is so simple and easy, and is positively within the reach of any Boy or Girl, Man or Woman. Mind you! We furnish you everything absolutely FREE.

Pleasant, fascinating work, and we will pay you for it, besides giving you an opportunity to obtain FREE this automobile. Hundreds of people are obtaining Automobiles in this way—why not you, especially when it takes so little effort? Send your name now and get our Wonderful and Amazing offer.

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EVERY AGENT CAN GET AN AUTO FREE NO CONTEST

Tub Guaranteed For 10 Years

You—yourself—can positively make $60 a week and get a Free Auto. I want men, hustling, energetic, ambitious fellows, anxious to make money, who are willing to work with me. Not for me, but with me. Are you that kind? I want you to advertise, sell, and appoint local agents for the biggest, most sensational seller in 50 years—the ROBINSON FOLDING BATH TUB. Demonstrating Tub Furnished. Here's an absolutely new invention—nothing like it. Makes instant appeal. Sells easily. Gives every home a modern up-to-date bathroom in any part of the house. No plumbing, no waterworks needed. Folds in small roll, handy as an umbrella. Self-emptying and positively unbreakable. Absolutely guaranteed for 10 years. Remember, fully 70% of homes have no bath rooms.

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Two sales a day means $300 a month. Breeze, of Idaho, made $400 profit in 30 days. Rev. Otto Schulze, Mo., got $1600 to date. Bankholder, Mont., orders $1072 in 17 days. Hamlinton, of Wyo., made $60 first two days. Hundreds like that. Pleasant, permanent, fascinating work. Write a postcard. Let me write you a long letter. No experience needed, no capital. Your credit is good if you mean business. But you must be ambitious, you must want to make money. That's all. Write a postcard now. I want to pay you $60 every week.

H. S. ROBINSON, PRES. THE ROBINSON CABINET MFG. CO.
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BASEBALL OUTFIT FREE

Combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector or complete suit, including shirt, pants, cap and belt, good quality, extra well sewed. Send name and we will send you 2 sets of our fine pictures to dispose of on special offer at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. *Write today* for pictures. "Is" in the game at once.

M. O. SEITZ, 3M43 **Chicago**

The drawbacks to the general use of traction engines is that the average farmer is a horseman and not a machinist. But "the tractor is coming," say many hard-headed farmers I have talked with. Where the traction engine has been operated with intelligence it has made good. In the hands of an unskilled person it has suffered the same fate a horse would undergo if he were handled by an ignoramus. The alpha and omega of machinery wisdom is to keep it clean, oiled and adjusted.

As above stated, no one knows which is the best tractor, but the wise farmer will select one that is easy to operate and repair, and one that is durable and reasonable in cost. He will also give attention to capacity, weight, speed, power and type.

"Type!" What a multitude of construction sins is covered by that word. Out of the mass of guesses and experiments will finally come a type of small tractor that will preserve the virtues of the conservatives without the freakishness of the radicals.

Among the numerous questions not yet settled for the ultimate standard, are whether air, water or oil cooling systems are best, and how light and how cheap a serviceable farm tractor can be built?

Probably the point of greatest difference today is in the matter of wheels. Are high drive wheels superior to the crawler type of traction? Are four wheels better than three? Is one drive wheel more economical than two? Should the steering wheel be in front or rear? How big should the drive wheel be made? I haven't met any one who can answer these questions finally. All I know is that a tractor must have stability; that the four-wheeler seems to be the best roadster; that a tractor should exert a direct draft in plowing; that the crawlers certainly get over wet and soft ground better than the high wheelers.

While each maker pins his faith to his own model, there is no agreement among mechanical engineers and designers or the public that a one-, two-, four-, eight-, or twelve-cylinder motor is the best. The ones, twos and fours are fairly equal in the race, with the odds in favor of the higher multiples.

Horse power will not disappear on American farms any more than man power where each is the most suitable. But the tractor is likely to become a popular drafter, as the automobile is the favorite roadster. This popularity will rest upon the development of a machine equivalent in power to six or more good horses, that will do all ordinary farm work on medium-sized farms.

30 DAYS FREE TRIAL

Total cost only $7.50 by Our 7 MONTHS TIME Purchase Plan

to prove to you that this magnificent Royal has the Sweetest, Purest, Loudest and Clearest tone—to prove to you that it is as large and handsome as the trust machines that sell at $65.00—

to prove to you that it has the strongest motor, the best reproducer and tone arm and the most ingenious devices to start, stop and control the music.

Shipped with a supply of 10-inch double disc records of your selection, so you can enjoy the finest entertainments for one whole month. Return the outfit **AT OUR EXPENSE** if for any reason you do not wish to keep it. Drop a postal for our big list of unsolicited testimonials, literature. They are free.

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Tells Why Chicks Die

I AM the poultry expert. My knowledge means dollars to **you.** My free book contains information that will enable you to **save every chick.** The great plague "White Diarrhoea," may overtake your baby chicks any hour. It may steal the whole hatch in a single night. My free book tells you how to save every chick. Write for big book today. It's free. Coupon is enough.

Last Year I Saved Two Million Baby Chicks

I have spent my life in the study of the poultry business. My free book will tell you about the exhaustive experiments I have made in order to find a cure for White Diarrhoea. Write for my book today and learn how to save your chicks—the same way that the book saved two million baby chicks for other people last year.

Every chick means money to you. Thousands and thousands of dollars in poultry profits are being thrown away each year because the baby chicks die. Don't be one of the losers. Send your name on the coupon now, and get my book. **It tells you how to save every baby chick.**

FREE Book Tells Why Chicks Die

By simply sending me your name and address on the coupon, I will send you, absolutely free and prepaid, my new poultry book, "Reefer's Baby Chick Book." You should have this book. You can get it now—without paying a single penny—without any obligation. Your name and address on the coupon is enough.

Send the Coupon

Tear off and mail coupon now. Simply put your name and address on the coupon, or a post card now and get my free book. The book is free—absolutely free. But you must hurry. The supply of books is limited—and you want the book for your own sake. Your chicks may get White Diarrhoea tomorrow. Now is the time to act. Send the coupon right now.

E. J. Reefer, the Poultry Expert 9563 Reefer Building, Kansas City, Missouri

E. J. Reefer, the Poultry Expert,
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Just get ONE friend to give you 25c for a full year's subscription to FARM NEWS—send us the name and the quarter and we will mail you this elegant Ring (guaranteed for 5 years by the manufacturer) with your own initial engraved on it. Enclose 5 cents extra for postage. 30 cents in all. Address

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A Gift For You FREE

20	8	5	
1	21	20	15
16	12	1	14

IF YOU SOLVE THIS PUZZLE. Each of these squares represents a letter but we have used figures instead of letters. There are 26 letters in the alphabet. Letter A is 1, B is 2, C is 3, etc. The eleven letters represented by figures form three words which will interest **you mightily.** Send the words on a slip of paper. Agree to show my plan and miss to your friends and I will give you a big pack of **pretty post cards and other useful novelties.** Write quick.

THE AUTO MAN, 65 New Ideas Bldg., Philadelphia, Pa.

A BIG SHOWER OF SILK FREE

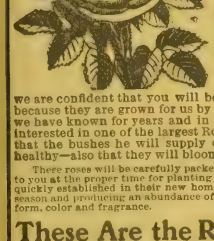
Can you use a big package of real silk remnants from a Necktie Factory? "Crazy Quilt" making is again very popular. Here is a bargain that will please you. Bright, handsome, odd-shaped and pretty colored goods accumulate very fast at Necktie factories; the styles were never so bright and pretty as they have been the past season and they are now burdened with remnants of many rich goods. We have purchased thousands of pieces from the factories which we have made up in assorted packages for our friends. Haven't you found it difficult to get the right assortment to put into sofa-pillows, quilts, etc? We can help you out now. Our packages contain the best quality assorted silks—all pieces are carefully trimmed and especially adapted to all sorts of fancy, art and needlework. We also give you 36 PRIZE WINNING QUILT BLOCK PATTERNS

These quilt block designs were selected from more than 800 patterns in a big Prize Winning Contest. Some of these are real historic designs, others are entirely new, but all of them are good and will appeal to the lover of beautiful and artistic quilts.

WE WILL SEND YOU FREE a big package of silk remnants and the 36 prize winning quilt block designs if you will send us 25 cents in silver or stamps to pay for a one year subscription to FARM NEWS. This offer may be withdrawn so send your order today.

FARM NEWS QUILT DEPT. 1 **SPRINGFIELD, OHIO**

Six Fine Growing Rose Bushes FREE



We will send these six rose bushes, just as described, free and prepaid to any one sending us one yearly subscription to Farm News at 25 cents, and 10 cents additional to cover cost of packing and mailing the six rose bushes—35 cts. in all. Sent prepaid. Order early.

CAN you imagine anything more delightful than to step out in the bright sunshine of an early summer's morning and clip a few big, fragrant, dew-laden buds from your own Rose Garden? And then think how wonderfully a few Rose bushes, would smooth over those bare spots around your house.

It isn't at all difficult to grow roses provided you start with well rooted pot-grown plants from reliable nurseries. For this reason we are confident that you will be successful with the roses we offer, because they are grown for us by an old friend of ours—a man whom we have known for years and in whom we have perfect faith. He is interested in one of the largest Rosaries of this country and we know that the bushes he will supply our readers will be live, hardy and healthy—also that they will bloom this year.

These roses will be carefully packed in moss and oil paper and will be shipped to you at the proper time for planting in your vicinity, so that they will become quickly established in their new homes, blooming every month of the growing season and producing an abundance of beautiful, full double flowers of exquisite form, color and fragrance.

These Are the Roses We Give You

WHITE DOROTHY—(New.) A pure white sport of well-known Dorothy Perkins, of same habit of growth and freedom of flowering; a splendid companion for the pink variety, as it flowers at the same time. This is one of the most delightful and showiest Roses of recent years. It is freely branched with a wealth of dark, glossy leaves, making a perfect bush in form.

F. R. PATZER—A distinct free-growing variety with large handsome flowers, which are produced very freely on stout, stiff stems of perfect form and highly tea-scented. The color is creamy-buff, the back of the petals being a delicate warm pink. A single plant often bears immense perfectly molded flowers of a glorious creamy-buff that is at once soft, bright and lasting.

KAISERIN AUGUSTA VICTORIA—We have white Roses that have elegant buds, but when full blown are not all that is desired. The Kaiserin Augusta Victoria Rose combines both these good qualities. Color a pure snowy-white. This variety is a wonder for freedom of growth and bloom and has taken the rose-loving public by storm.

RHEA REID—Considered by experts to be the finest red rose in existence; has no rival. Rhea Reid is an offspring of American Beauty which fact alone would place it right in the front rank along with its hitherto unrivaled parent. The roses grow on single stems and measure three to four inches in diameter, vivid, rosy crimson in color with the same delicious fragrance as the American Beauty, but unlike that variety, it has been known to produce in a single month twenty times as many blooms as its parent plant.

WM. R. SMITH—This Rose has our unqualified endorsement. Buds are perfect and the open flower is a creamy-pink color with flesh-tinted tips and the base buff-yellow. We believe that you will be thoroughly delighted with this Rose as soon as you have tried it. It quickly develops into a sturdy symmetrical bush with heavy, handsome foliage.

LADY HILLINGDON—A beautiful Tea Rose that has created quite a sensation. The blooms are an exquisite shape and color a deep apricot-yellow, shading to orange. Deliciously fragrant. It grows to perfection in any section of the country and continuously bears great numbers of lovely flowers of immense size on stiff, erect stems. The color of the flowers is deep yellow

Our Special Offer

We realize and appreciate that nearly every human being is an admirer if not a lover of flowers. We are located in Springfield, Ohio, the greatest Rose center of the world, and the plants or bushes are cheaper here by far than in any other locality.

We will send the six wonderful varieties described herewith and Farm News one year to any person sending us 35 cents.

The Proper Time For Planting

Send us your order at once and we will arrange with our florist to have the Rose Bushes sent to you at the proper season for planting in your locality. It matters not where you live, these six Roses will reach you at just the time to place them in the ground.

Send Your Order Now

Send us your order right now, before you turn this page and forget about it. We have contracted for thousands of these bushes but may run short, so to make certain of getting the Rose Bushes, you should send in your order today. Send 35 cents and your subscription will be promptly entered and the Rose Bushes sent postpaid.

FARM NEWS ROSE DEPT. SPRINGFIELD, OHIO

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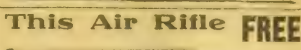
Contains more than 65 new different designs for experts or beginners in Crocheting and Tatting. Simple instructions with each design. Fully illustrated. Handsomely printed. Money refunded if dissatisfied. Send 12c stamps.

People's Supply Co., St. Louis, Mo.

This Air Rifle FREE



This Sterling repeating air rifle shoots 350 times without reloading. Walnut finish stock, blue steel barrel and nickle trimmings. One of the neatest, classiest and most accurate air guns made. Every boy

We will send this Sterling Repeater free and prepaid to any person sending us six yearly subscriptions to Farm News at 25c each.

FARM NEWS, Rifle Dept. Springfield, Ohio

175 Page Poultry Book

GIVEN FREE

This book is neatly printed on good paper and well illustrated. Contains descriptions of the different varieties of fowls, with complete instructions for raising all kinds of poultry, curing diseases, caponizing, artificial incubation, how to build poultry houses, advice to beginners, etc. Every poultry raiser needs this book, just as much as a school boy needs text-books. There is information in this big volume that is worth a great many dollars to any person engaged in or about to become engaged in the business of raising poultry.

This big book (1 inch thick) will be given free and postpaid to any person sending us 25 cents for one yearly subscription to this magazine. FARM NEWS, Poultry Dept., Springfield, Ohio.

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allowed, no matter where you live. If not more than pleased with our values return violin AT OUR EXPENSE—and no harm done. Ability to play the violin brings social and financial success. Get a violin with a rich, mellow tone and it will create in you a desire to master it.

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SIMPLY mail me the coupon below and I'll send you this big can of *Corona Wool Fat*—the greatest preparation ever put on the market for Cracked and Split Hoofs, Contracted Feet, Corns, Grease Heel, Thrush, Barb Wire Cuts, Sore Shoulders, Sore Teats of Cows, etc. I want to prove to you ***before you pay me a single cent,*** that here is a preparation you can't afford to be without. I want to send you, postpaid, this big can of ***Corona Wool Fat*** on

20 Days' Free Trial

I want to show you that you can keep your horses' hoofs in the finest condition with it—take out all foot soreness, cure all flesh wounds, etc., and do it quickly.

I want you to try this wonderful healing ointment at my risk—not yours. Try it on any case you have—apply part or all of it. At the end of 20 days if you are perfectly satisfied, send me only 50c for the big trial can. If you are not satisfied, tell me so and you won't owe me a penny.

Corona Wool Fat

The Wonderful Healing Ointment

is extracted from the skin and wool of the sheep and is the only remedy that will penetrate the shell of a horse's hoof—take out the soreness and grow new hoof. ***Corona Wool Fat*** does not burn, blister or cause suffering. It is a cooling, healing, penetrating ointment, quick in action, ***heals without leaving a scar.*** Read these letters—we have thousands more like them:

Corona Mfg. Co., Kenton, Ohio.
Gentlemen:—Corona Wool Fat is the best thing I have ever used for hard and contracted feet of horses. I have used about all kinds.
Yours truly,
P. D. Jamison,
Bridgewater, Maine.

Corona Mfg. Co., Kenton, Ohio.
Gentlemen:—I like Corona Wool Fat. I think it is fine to heal sores and cuts, and can truly recommend it to any one needing a good healing salve.
Yours truly,
Dewitt Conrad,
23 State St., Fort Plain, N. Y.

SEND NO MONEY — SIMPLY MAIL COUPON

If you have never sent for a trial can of Corona Wool Fat, I will gladly send you one on 20 days' free trial, postpaid. Then, if satisfied send me only 50 cents—if not satisfied, just write and tell me so and I'll charge you nothing. Write for the big trial can ***now.*** You risk nothing in testing it. ***Will keep your horses in working condition and put them in selling condition.***

Corona Mfg. Co., C. G. PHILLIPS, Manager **14 Corona Blk., Kenton, O.**

Cracked Hoofs Before and After Using Corona Wool Fat

Corona Heals Barb Wire Cuts Smoothly

Grease Heel Before and After Using Corona Wool Fat

For Collar Boils and Sore Shoulders

IT WILL CURE

Hard and Contracted Feet, Mud Fever, Split Hoofs, Corns, Grease Heel, Thrush, Quarter Crack, Cuts, Barb Wire Wounds, Sore Teats of Cows, Ulcers, etc.

Our Guarantee is on the Lid of Every Can.

I have sent out over 1,000,000 cans the past eight months, and now have more than that number of satisfied customers. You need it; I have it for you, and you can try it out on the "before you pay" plan. Now, all I ask is a fair, square trial on its merits. *C. G. Phillips.*

PROOF!

Corona Mfg. Co., Kenton, Ohio
Dear Sirs:—I have received the Corona Wool Fat all right and have tried it and it works just as you recommend and even better. My horse was sore in the front feet and she could hardly get out of the barn, and in two weeks time she improved so much that she was as limber as ever, and our blacksmith stated that he never saw anything as good as Corona Wool Fat.
Sincerely, T. J. Tisheil,
North Rush, N. Y.

Corona Mfg. Co., Kenton, Ohio
Dear Sirs:—I have had several cans of your Corona Wool Fat and it has given good satisfaction, and as I was unable to get any in this section I wrote to you. Please send me price list of your Corona Wool Fat Ointment. I used it on a horse that had a very bad quarter crack, and by spring it was grown down and clear out, and I never let him stand a day with it. I think it is the best preparation I ever used for all kinds of sores. Fred Stout,
Monroe, N. J.

Corona Mfg. Co., Kenton, Ohio
Dear Sirs:—Having been in the dairy business all my life and as all dairymen will agree it is a hard matter to keep their horses going sound. I with the help of the shoeing smith were kept at our wits end until a friend of mine told me of Corona. It certainly does the work. Every horse is going sound and when it comes to sore teats on cows you have certainly solved the problem. In fact, my stable and barn boys all swear by Corona and the best part of it is, it is just as good for a man as for a horse or cow.
Wishing you the success that is due you, I remain,
Yours very truly,
Robt. T. Armil,
Prop. Oakwood Dairy Farms,
Davenport, Ia.

20 Day's FREE TRIAL COUPON

CORONA MFG. CO., 14 Corona Block Kenton, Ohio

Gentlemen: — Please send me the trial can of your Corona Wool Fat. It is understood that I am to use this for 20 days in accordance with directions, and if I am satisfied with the results I will send you 50 cents to pay for it. If it does not do as you claim I will owe you nothing.

Name .....

Address .....

County .....

State .....

State ailment you intend to test it on.....

Galled Shoulder

Fill Out the Coupon NOW

Before and After a Bad Case of Scratches

Heals Inflamed Cows Udders

1,000 000 Farmers, Stockmen and Blacksmiths are using Corona Wool Fat. Don't experiment—make sure of a quick cure by using Corona Wool Fat. There is no other remedy or healing ointment that will do the work as well. C. G. PHILLIPS.

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FARM NEWS

All That is New and Best For the Farmer

Springfield, Ohio Price, 5 Cents

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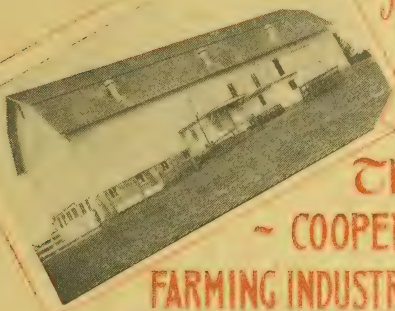
1916



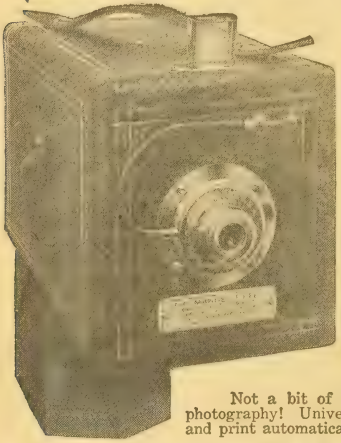
The ~ COOPERATIVE ~ FARMING INDUSTRIES of WISCONSIN

Special Article by G.H. Dacy Page 5. This Issue

TILE DRAINAGE By W. F. PURDUE. Page 4. This Issue

No Money In Advance

This Marvelous CAMERA On FREE TRIAL!



Only 10,000 of these marvelous, instantaneous picture-taking and making cameras to be sent out absolutely on approval without a penny in advance just to prove that it is the most wonderful invention—the camera sensation of the age. So **you** must send for it **quick!** Just think of it—the new Mandel-ette

Takes and Makes Finished Pictures INSTANTLY!

You press the button, drop card in developer and in **one minute** take out a **perfect, finished** post card photo 2½x3½ inches in size. Camera, itself, is about 4½x5x7 inches. Loads in daylight 16 to 50 post cards at one time.

No Films—No Plates—No Dark Room

Not a bit of the muss and bother of the ordinary kodak or camera. It is instantaneous photography! Universal focus lens produces sharp pictures at all distances. Pictures developed and print automatically. Can't overdevelop. Results positively amazing.

Better Pictures—Less Bother

I received your Mandel-ette Outfit yesterday and after trying it out today, I must indeed express my astonishment at the work that can be done with it. The first three pictures that I had taken were better than most of the snap shots that I took with a film camera, and there is much less bother and work in making the pictures. I have shown it to a number of people today and I am sure that you will be able to sell at least 75 or 100 here if you would have some way of demonstrating the goods. I am going to show my outfit to everyone that I meet and you can rest assured that I will do my best in boosting your wonder camera.

I. M. BROWN, Poplar Bluff, Mo.

Wouldn't Sell It At Any Price

I received my Mandel-ette and am much pleased with it. I took some pictures and even though it was a cloudy day, they came out just grand. I wouldn't sell the camera at any price.

SUSIE KINSEL, Gloucester, N. J.

Surprised At Fine Pictures

I am making some fine pictures with no trouble at all. All who see my Mandel-ette Camera say that it is fine and they are surprised when I make a perfect picture in one minute.

WALTER G. HERMAN, Newburg, Ore.

Fine Results In Cloudy Weather

Camera received. It is a dandy. Pictures are fine. Took some last Sunday in cloudy weather and even under the circumstances they came out good.

PAUL L. Du RAPAU, New Orleans, La.

We Trust You

No difference who you are, where you live or what your age, we will send you the complete Mandel-ette outfit absolutely on approval and give you ten days to test it. If not satisfactory return it. But when you see what elegant pictures it takes—so quick, so easy, with no trouble at all—if you wish to keep it you simply send us $1 per month until our special price of only $5 is paid.

Easy Payments—No Reference

No red tape of any kind. Monthly payments so small you'll not notice them. Simply fill out and send coupon today. Send no money. No references required. Lots of fun and big profits.

No Experience Required

Plain instructions and everything complete with outfit so you can begin taking pictures the moment it arrives. We guarantee that even a child can operate it. Mail coupon now. No risk or obligation to keep camera.

Chicago Ferrotype Company,
Desk 227 Ferrotype Building, Chicago, Ill.

Send me at once complete model Mandel-ette outfit including supply of post cards and instructions. I agree to examine and test it thoroughly and if satisfied pay you $1 a month until your special price of $5 is paid, otherwise I will return it at the end of 10 days.

Name.....

Street and No.....

Town.....State.....

Chicago Ferrotype Company,
Desk 227 Ferrotype Bldg.,
Chicago, Illinois

Friend Sends Order

My Mandel-ette arrived early Saturday morning O. K. Thirty minutes after it arrived I took my first picture and it was a great success. Any person after mastering your simple instructions should get good results with your Mandel-ette. I don't see how I ever got along without one.

After I had unpacked mine, my friend, Theo. Murdoch, New Petersburg, Ohio, came along and he was so enthused over it he sent for one the same morning. Several more of my friends are thinking of sending for Cameras in the near future.

HERMAN R. STOEBEL, Greenfield, Ohio.

No Chance For Mistake

Your special outfit reached me by express this morning. It sure is all you claim it to be and there is no danger of my sending it back, as the first picture I took was of my wife and two children and it is the best I have ever seen.

That was the first time in my life that I have ever tried to take a picture, in fact, it is the first time that I have ever used a camera of any kind and by following your instructions in the circular there is no chance to make a mistake.

TOMMY WEST, Louisville, Ky.

$18.00 In Two Days

I wish to say that I am well pleased with your camera. I am using my Mandel-ette this week at the Bedford County Fair. I have made about $18 so far with my Mandel-ette and today is only Tuesday.

IKE THURMAN, Jr., Shelbyville, Tenn.

Make It Pay In 2 or 3 Hours

I received your camera O. K. and am well pleased with it. I have already made some dandy pictures and I am sure I can make it pay for itself in two or three hours. Enclosed find orders for more cards.

J. B. HONEYCUTT, Beslog, N. C.

Camera Success—Wants Agency

As I have bought one of your Mandel-ette Cameras and found it to be very successful in taking pictures, I wish to make application to become your agent. I have several young men here who are anxious to buy one and I will send you their orders as soon as I hear from you.

GEO. REUTIC, Ft. Collins, Colo.

More Than Paid For Itself

I am very pleased with the Mandel-ette Camera. I have made some very good pictures with it and it has already more than paid for itself.

CHAS. E. MEARS, Jasonville, Ind.

Makes Wonderful Pictures

I received my camera O. K. and am well pleased with it. I was surprised at the wonderful pictures it made on my first trial and would not sell it for anything.

W. G. WILLIAMS, Herberton, W. Va.

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI — APRIL 1916 — Number 4

YOU CAN HAVE THEM FOR NOTHING

Meaning, of Course, Advice From the Editor and Books and Literature From Our Advertisers

CATCH CROPS

Warning after warning has been sounded by the agricultural press, and by state and government authorities, as to the condition of seed corn this year, and the absolute necessity for testing it. And yet we firmly believe that thousands of farmers will be caught with a short crop because of poor seed. If there are any such among FARM NEWS readers, we would recommend them to read the story of "Catch Crops," by R. B. Rushing, on Page 12 in this issue.

WHERE COOPERATION PAYS

The value of cooperative effort in producing a goodly profit is best illustrated by the state of Wisconsin, where this method has been tried and proved good. G. H. Dacy tells in an entertaining way, many of the benefits Wisconsin farmers have derived from a comprehensive cooperative plan, on Page 5, in this issue.

We are sure that the number of farmers who want war with Mexico is so small as to be negligible. And yet there are people in this country who are doing their very best to stir up trouble in that stricken country, so as to cause the United States to intervene. In fact, there is a well-defined story in Washington that an organized propaganada is being carried on by persons who have financial interests down there to bring about intervention.

The man who wants to bring about such a condition is in the same class with Arnold, and is just as much a traitor to his country as tho he had extended aid and comfort to its enemies. He wants our boys to go down into that hell-ridden country, and fight and die that he may add a few more dollars to his fortune.

Unfortunately, such actions do not come under the provisions of the constitution describing treason, but some congressman or senator could make himself very popular by introducing an amendment covering that form of offense.

FERTILIZER FROM WASTE

One of the city's problems is the disposal of garbage and other waste material. Thru experiments carried on under government auspices, it has been demonstrated that a profitable proportion of this waste can be converted into fertilizer, which may be used on our farms.

The city produces nothing, hence it is a certainty that what it does consume comes from the rural districts. So what is more natural than that this enormous wastage should be just as valuable in restoring a part of the fertility properties taken from the soil to supply this demand as that of any farm animal?

The day is not far distant when this problem will be met with appliances and methods which will reduce the cost of necessary operations to get the largest value out of this waste matter. Under the present system the cost of gathering the waste, and the cost of securing the valuable by-products, is practically prohibitive. American genius has solved harder problems than this, however.

"HANDBOOK OF EXPLOSIVES"

The Dupont-Nemours Powder Co., Wilmington, Del., will send, without cost to those of our readers who are interested, a copy of their book, "Handbook of Explosives." This interesting book may be had by sending a postal card, asking for "Handbook of Explosives," No. 104. Ask for it today, and be sure and mention FARM NEWS. A postal will do.

WRITE TO FARM NEWS ADVERTISERS

There's a wealth of information in the literature, catalogs, booklets, etc., offered by advertisers in FARM NEWS. You never know just how much our advertisers are doing to help you until you let them send you some of their literature. Nearly every one of them have made special studies of their particular lines of manufacture, and in the development of their products have learned many things of value. You can reap the benefit of their experience by writing to them for their booklets, circulars, etc. The letters which they send in reply to inquiries are instructive, Write for them—they are free.

FREE JERSEY CATTLE BOOK

To those of our readers who are interested in Jersey cattle we advise them to write to The American Jersey Cattle Club, 381 West 23rd Street, New York, for their book, "The Story of the Jerseys." It's free. Just a postal will do. Mention FARM NEWS.

NEW REFINING PROCESS

The U. S. Government officials have recently turned over to a number of oil refineries, a new method for producing gasoline from crude petroleum, which it is claimed will produce this high-priced fluid in greater quantity from oil fields which have in the past yielded up to a high percentage. It has also demonstrated that it will produce gasoline from petroleum from which it has heretofore been impossible to secure any quantity.

The process has been made known to the various refineries without cost, and should be a large factor in securing for the people cheaper gasoline. Let us have hopes.

WATCH OUT FOR PRICES ON WHEAT AND CORN

According to government statistics, there is now on hand among the farmers in this country a much larger percentage of the 1915 crops of corn, wheat and oats than ever before at this time of year. This is a condition which will bear watching, as bumper-crop assurances for the coming year would undoubtedly mean a sharp decline. On the other hand, if thru poor seed, unseasonable weather, or a score of other reasons, the crop would indicate a falling off, there is sure to be a rise in price, which will mean a good profit for having held thru the winter and spring. It is a condition which will bear close watching, however.

No Mystery About Tile Drainage

Its Manifold Benefits Are Best Conserved By Going At It In An Understanding Way

By W. F. Purdue

TILING is a very important work and must be carefully planned. Many farmers begin their operations in filing with a pond or a series of ponds, perhaps a slough. They do not usually at the time understand the value of tiling, nor what part of their land really needs it. They add another string this year and another next, and by and by they find that the tile in the main ditch is too small, and the net result is that they have to take them up and replace them with larger tile, or double up their tile in the ditch. Thus they lose a great deal of money and labor.

What is the right way to tile? First, make a careful study of the land, of the character of the soil and the subsoil, of the amount of water that must be taken care of; in other words, of the area from which the water will pour onto the land. You must do more than that. You must study carefully the higher lands around it, and see to what extent you will have to take care of water that is pressing downward until it comes to the rock or hard clay, and will rise up in the lower lands.

The best thing to do, where one has considerable tile to lay is to secure the services of a competent drainage engineer before a foot of tile is put down. Let him advise you as to the size of the tile, their distance apart, the fall that is advisable, and have him draw out a complete system. Have him draw it out carefully on the map, with the distance between the drains carefully recorded, so that if at any time it is necessary to repair a break or to remove some obstruction you will have no difficulty by measuring from a known point to find out just where that tile is located. This will cost something, but it will not cost a third of the money that you are apt to waste if you go at it in a haphazard way.

We have never known any money being lost in tiling land where the work was properly done. So the best thing to do is to secure a competent engineer and have him map out a complete system. Then when you lay the tile, see that you absolutely follow directions. There is no way of laying tile correctly except by following minutely the directions, the measurements and the stakes which a competent engineer has laid out for you.

Few farmers realize the amount of drainage that they will have to do in the future. They will find that land which they think is perfectly well drained now will need draining in the future. With the advance in price of land, the benefits of tile drainage are so obvious that farmers will not be satisfied in future years with the drainage that they considered satisfactory in the past. They will discover by and by that clay lands will be so greatly improved that they will tile them out.

No one can tell the size of tile that should be used for the main drains until he has ascertained the area from which water will flow into these drains, either on the surface or from seeps in the hillside, or from rising up in the bottom by reason of the pressure of the water on higher lands. No man can tell definitely the size of tile needed until he knows the distance between the drains, this is determined by the character of the soil.

Don't begin to tile until you have laid out the entire system. Don't stop at expense in doing so. Then follow the system exactly. If this is done, there is no more danger of losing money in tiling land than there is of losing money by growing first-class corn and giving it good care.

In the foregoing we have written with especial reference to land where a

The usual method of installing a drainage system. Our cover picture tells the modern story

complete system of drainage is necessary. On farms where occasional lines of tile are needed to drain low or seepy spots the work can be done by the farmer himself, if he will secure an outfit of leveling instruments and go at the work carefully.

TILE WELLS AN AID IN DRAINAGE

In some localities, the water-bearing stratum lies at so great a depth that it is not a practical proposition to reach it with an ordinary drain. The soil above the water-bearing stratum is in many cases heavy clay or clay loam. If the water is under pressure in the porus stratum and is forced up through the heavy soil until seepage is plainly evident on the surface, a good way of attacking a problem of this kind, when drainage is desired, is to place the tile line 4½ or 5 feet deep, and with a post-hole digger go down to the water bearing stratum, and into the same every 50 or 100 feet. Standing 4 or 5 inch tile on end in this well, will make a passage through which the water may rise from the water-bearing stratum to the tile lime. It is well to cover the tile with gravel 4 or 5 feet on each side of the well. The series of these wells emptying into the tile line will relieve the pressure of the water and many fields have been successfully drained by systems of this kind.—E. B. House, Col. Ag. Coll.

FARM SCALES

Selling by guesswork is a relic of past times, when only the rich could afford scales. At the present time, when a few dollars will buy a pair of scales that can be depended upon to do good work every month in the year, there is no excuse for dealing by guesswork at any time. Every farmer should know at all times just what he is doing, without any guessing about it.

A farmer is not practicing right business methods when he makes a single deal in the slipshod manner formerly prevalent when scales could not be afforded. In dealing with butchers, especially, he is always at a great disadvantage. The butcher really buys by weight, tho it is by estimated weight, and, of course, after he gets his stock where he can weight it he does so, and thus he is able to check his estimate, and so in time he becomes skilful at this way of trading.

Occasionally, perhaps, the butcher may be deceived in his judgment as to the weight of an animal bought, but this doesn't happen often; he takes pains to be on the safe side in the majority of his deals, and it is the farmer who is almost always the loser.

Aside from the regular uses of farm scales when selling or buying stock or grain, there are almost daily occasions for the farmer engaged in livestock raising on a large scale to weigh some of his animals. In feeding stock, if the feed does not bring a proper return, the feeder needs to know this fact as soon as possible, for the loss soon becomes serious. A reliable pair of scales, if properly used, will enable him to guard against such losses. Scales let the feeder know exactly what he is doing, both during the time of feeding and on the day the animals are marketed.

The price of good farm scales is now very reasonable. There are various makes, and any of the standard ones will do accurate work when set up properly and then given good care. In many neighborhoods several farmers have clubbed together and purchased a pair of scales of large capacity, and set them up at a central point where all can weigh their stock and grain crops without much loss of time.

Farming Industries of Wisconsin

Where Cooperative Effort Has Proved Beyond Question That It Yields Profitable Returns

By G. Harold Dacy

COMMUNITY breeding clubs have effected much good in the way of improving the work horses of their respective districts. The plan of organization is merely to band together a number of farmers, each of whom invests a certain amount of money in the purchase of one or more typy, prepotent stallions, which are used to cross on the local farm mares, as well as being stood to public service. The presence of a good, pure-bred draft stallion in a locality for a few years is indelibly recorded in the improved progeny that result.

For illustration, let us presume that ten farmers combine and purchase a pure-bred, Percheron stallion for $2,000. Each man chips in $200. The sire will earn about $500 each year in service fees, while each of the owners gets the free use of the male on his home work stock. Within a few years the work stock of the region will have been measurably improved in consequence of the use of the pure-bred sire on the native mares. A $2,000 stallion, of course, would be one of superior quality. Excellent males, well-adapted to community breeding work, may be had for $1,000, and even less, where the purchasers are able to strike a real bargain. It is feasible to either maintain the stallion at the farm of one of his owners, which is centrally located and readily accessible by railroad or highway, or else to place the stallion in the charge of a groom who will take the animal from farm to farm during the breeding season.

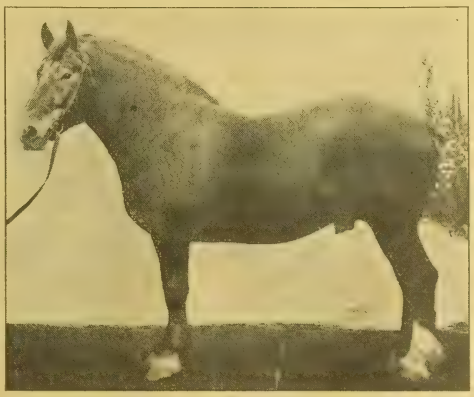
Where permanent results, as well as a dividend-paying income, are the ends sought, it will pay the owners of the stallion to discriminate relative to the type of mares that are crossed on their horse. As far as possible they should strive to educate the farmer regarding the value of heavy mares of desirable quality and characteristics. It will not pay in the long run for them to allow their animal to be mated with every scrub and mongrel female that comes along. The resultant colts of such crossing would be far from creditable or a good advertisement for the horse.

In a community breeding district there lies the splendid opporunity for the locality to make a specialty of one breed of horses. The farmers imbued with the proper "get-together" spirit should maintain mares of similar size, quality and adaptability to work. The males should be even superior to the females. The idea should be to establish a standard for the offsprings. The result will be that when a buyer who desires either a team or a car-load of hores of a certain type inquires, "Where can I get horses of such and such characters?" The reply will be: "Go to such and such a community breeding district. There you will find all the animals you desire at fair prices."

The co-operative social spirit needs attention in every farming region, particularly where the territory is well-populated and the farms are not overly large. Where farm people are many, and the size of the average farm is small, the usual social center is either the country store, the saloon or both of these places, where the village is of any size. The lasting benefit that accrues to the community at large from such centers is insignificant. In fact, in the majority of instances, the influence exerted by the country store and the saloon are bad. How to sensibly counteract the effects of such detrimental influences on country folk is a current problem. One solution that has been practically evolved and demonstrated is the use of the village school and church as social centers. The organizations of farmers' clubs, domestic economy clubs, boys' corn clubs and girls' garden clubs have all made for better rural conditions. The use of the school and church as places wherein these clubs could meet, and where also agricultural meetings, lectures, home-talent musicals and theatrical entertainments could be held, has wholly transformed the social conditions that heretofore existed in many retrogressive country districts.

Community breeding clubs bring an appreciation of good mares

Co-operative egg marketing associations, the co-operative country store, the co-operative grain elevator, co-operative seed and market grain-selling organizations, and co-operative grain-growing projects have all aided in gaining for the farmer larger dividends from the money he spends and earns. It is advisable for several neighboring farmers who wish to purchase an ensilage cutter and a gasoline engine or a threshing outfit, or even a gasoline tractor, to club together and bulk their money in such a purchase. This will lessen the per capita cost of the machinery and its future maintenance. However it is best that a definite agreement be drawn up, stating each owner's responsibility and the amount of work that the implement may perform on his farm. It would be advantageous if each farmer paid regular wages for the time that he used the machine. Then at the end of the year, after all the expense had been paid from this general fund, the surplus could be prorated among the owners. This would necessitate the election of one of the owners to act as manager of the machine, whose duty it would be to keep the implement in working order, and to attend to all collections and disbursements. This man should be paid for his services.



Farmers combine in buying a good stallion, and thus form a community breeding-club

The proposition of a number of neighboring farmers combining and producing seed, corn, wheat, rye barley, or seed of the other cereals, grains or grasses along "get-together" lines is to be recommended. Even though the individual farmer raises but four or five acres of good seed a year it will more than pay him to bulk efforts with his neighbors in the marketing of the seed. The growers should begin the work on a small scale, and if it pays they can expand the scope of their operations. It is by the production of pure-bred seed of high-yielding strains that the farmer of the future will earn the money to pay for his automobile.

An annual community

(Continued on Page 34.)

Country Schools and Farming

Wisconsin Recognizes the Fact That Boys and Girls of Today Are the Men and Women of Tomorrow

By Howard I. Wood

RECENTLY I listened to an address by Carl Vrooman, Assistant Secretary of the United States Department of Agriculture, and heard him make the statement that if farmers would put into effect the improved methods which have been demonstrated to be absolutely successful, the yield of American farms could be increased from $10,000,000 to $12,000,000 per day for each day of the year. The successful work in scientific farming that is being done thru rural schools appears to be one of the means by which the scientific methods which Secretary Vrooman referred to will eventually come into general use.

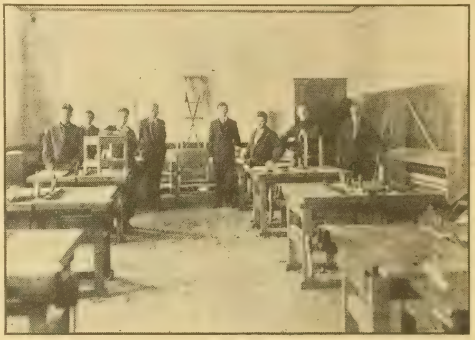
Nor is it altogether in the older communities in which such activities are flourishing. A new country with the flavor of progressiveness often excels in new and modern practices. Marinette county, Wisconsin, is new in many ways, and in the splendid modern work in agricultural which is being done thru the rural schools is one of the plans illustrative of the quickness with which new ideas and work are taken up in a new country.

For a quarter of a century a considerable part of Marinette county had been farmed, but in the past ten years thousands of acres of former unimproved lands have been put under the plow. Peculiarly enough the most modern and progressive work in agriculture in the rural schools has been carried on, not in the older settled districts of the county where there would naturally be more funds for such work out in the newly settled districts, where many of the farmers are only making beginning.

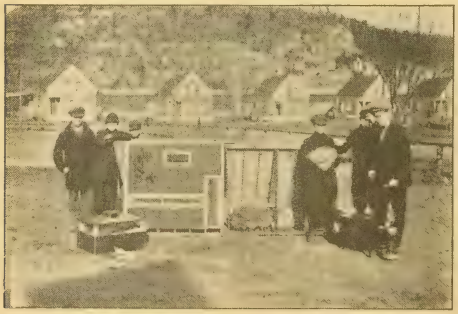
It is not necessary to spend any time on what the Babcock tester is, and what its mission is in dairying. It transformed dairying from a haphazard occupation, beset with some fraud and many chances of losses, into a scientific business, whereby any dairyman can tell at any minute whether he is keeping a profitable or unprofitable herd, and just how profitable or unprofitable that herd is.

Ten rural schools in Marinette county own Babcock testers. How did they get them? Well, in some districts the members of the school boards were progressive, and they were purchased thru the general school funds. But that was not the rule. Not being able to get an appropriation from the school board never hampered a resourceful country school teacher. Socials, musical programs, spare jobs on Saturday by the teacher and pupils, all these and other means the principal of a country graded school felt that the teaching of folk dances, the basic principles of harmony and simple music, was something that was needed for the balanced development of his pupils. But he could not make the school board see it—at least not to the extent of getting an appropriation for a piano. He conferred with his young lady assistant, and they learned the school board paid about $60 per year for scrubbing the school. The two teachers took the contract, and by paying $60 down got the piano installed in the school. It was not long until the payments on the piano were completed with money raised by musical entertainments made possible by having the piano. The young man who carried thru that plan is Leo J. Chassee, who was born and raised on a farm. He is just as aggressive in carrying thru plans for agricultural work in his school as he was to make it possible to teach music, and his school has done some of the best work in seed corn germination tests for the entire district in which the school is located of any school in Marinette county. One of the objects which no visitor to the school fails to see is the very useful corn tree, which was built by the manual training boys of the school, and is used every year in helping the farmers of the district to make certain they are planting corn seed which will germinate.

But we got off the subject of Babcock testers without



Manual training room of Wausaukee, Wis., school. The training is given with particular reference to its use in farming



Chicken coop and incubator built by boys of a country school. The school owns a flock of seventy, and records are kept

A class studying and judging a dairy cow. They afterward make milk tests with the Babcock tester in the milkroom of the farm

saying all that ought to be said about them. Perhaps you think that after the rural schools raised the money for these testers they sat back and waited for the farmers of the district to send in samples of the milk of their cows for testing. No, most of them worked too hard to get the testers. They were determined to make them useful, not only to the pupils, but to the entire districts.

This is how they did it: Each child was a direct communication with some farm in the district. Almost every farm had dairy cows. Thru the school children, properly prepared samples of the milk of the individual cows of various herds were brought to school and tested. Under the direction of the teacher milk sheets, showing the production of each cow, and also the feed given each cow, and its cost were prepared and kept rigorously in connection with the tests with the Babcock tester. If the Babcock tester showed a low percentage of cream in the milk of a cow, which the milk sheet showed did not yield heavily, and yet the feed proportion showed that cow consuming as much as some of the best-yielding animals of the herd, it became a mighty interesting mathematical problem for the pupils from that certain farm to figure just how much his father was losing on that cow.

This work has sent many a "boarder" cow to the block in Marinette county. In other instances it has brought to the attention of the farmers the need of a balanced ration for dairy cows—proof that without increasing the cost of feeding the herd they could increase the production by giving feeds containing the proper proportion of food elements needed for the heaviest production of milk.

Still another point: How many of the boys—and the girls, too, for strangely enough they are found in the front ranks of enthusiasts in this agricultural work—who become farmers will keep dairy cows without having a Babcock tester and keeping milking and feeding records? How many of these boys will be kept from probable failures in the city, by becoming so interested and proficient in farming while in school that they will turn naturally to that business when they leave school? The reader will not need to be reminded of the further advantages that come from this plan by drawing the school and older people of the community into joint-improvement work in agriculture which will benefit the farms and lives of the entire district.

Of the many activities in scientific agriculture being carried on thruout Marinette county by the rural schools the work of the Niagara schools is a particularly good example. The principal is H. C. Haufschild, and it may be said with all truth that he is doing agricultural work on a plane with much of the work of our best agricultural colleges, and he is doing it in surroundings where it is a direct community benefit as well as being practical education of a high order of usefulness to his pupils.

Twice a week Mr. Haufschild takes his class in agriculture to a farm in the district, having made arrangements with the farmer in advance. A dairy cow is led out of the barn, and the children produce their notebooks and pencils. The teacher talks to the class as if they were companions on a business trip, instead of keeping up the classroom relation of teacher and pupil. By this means he gets closer to his charges, and incites greater interest in their work. Following a brief talk by the teacher on judging good dairy stock, questions are asked of the members of the class. All strong points brought out by either teacher or pupils are recorded in the notebooks for further discussion and emphasis in the classroom.

Perhaps on one trip an exceedingly good dairy cow is used as the subject of the discussion and judging efforts, and on another trip a scrub animal is used. Reducing the contrast to a comparison of each feature of the two animals, and then transforming the difference into a computation of dollars is no small part of the interest and value of the work. Swine, sheep and fowl are other livestock subjects which the students are taught to judge.

When the livestock talk is over the class proceeds to the farmer's milk room. Samples of the milk of each cow of the herd have been prepared in advance, and the Babcock tester is brought into use. The pupils often have been encouraged to make a guess on the probable production and fat test of the milk of the dairy cow they have inspected, basing their guess on their knowledge in judging a dairy cow. When the result of the Babcock test of the milk of that particular cow is ascertained the boys get data on how close their guess was, and the work is followed up by keeping a milk sheet on the animal under discussion, and eventually it is determined how close the estimates on the quantity of milk are. This competition of the students in their efforts to be able to judge livestock animals becomes very keen, and it, of course, has its effect in their talk

(Continued on Page 18)

HEALTH AND INCOME

Both Kept Up on Scientific Food

Good, sturdy health helps one a lot to make money. With the loss of health one's income is liable to shrink, if not entirely dwindle away.

When a young lady has to make her own living, good health is her best asset.

"I am alone in the world," writes a Chicago girl, "dependent on my own efforts for my living. I am a clerk, and through close application to work and a boarding-house diet, I became nervous, and got so bad off it was almost impossible for me to keep up in the office.

"A friend suggested to me the idea of trying Grape-Nuts food which I did, making it a large part of at least two meals a day.

"Today I am free from dyspepsia and the ills of an overworked and improperly nourished brain and body. To Grape-Nuts I owe the recovery of my health, and the ability to retain my position and income." "There's a Reason." Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Grand Prize, Panama-Pacific Exposition, San Francisco, 1915

Grand Prize, Panama-California Exposition, San Diego, 1915

DRINK

BAKER'S COCOA

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The Dust Spray

The Results of Several Years of Experimenting Compiled for the Benefit of Orchardist

By Alvah H. Pulver

IS THERE a revival of interest in the dusting of orchards as a means of accomplishing, economically and quickly, what the spraying process does at greater expense and with more time involved? In the tryout of the dusting method as followed years ago in the Northwest, and which was recorded as a failure, did the method obtain the proportions of a true test, such as could today be applied in the light of later discoveries of chemical mixtures calculated to combat the orchard pests.

For the last few years the conviction has been growing that the method has real merit, but the intrenched position of the liquid spray has left it to the experiment stations and agricultural colleges to point out the efficacy of the dusting process by actual experiments on marked blocks of trees, where the results could be tabulated. These experiments are now under prosecution by the New York College of Agriculture, and enough has been attained in the work to give a scientific basis for the dusting method.

This fruit was grown in an orchard where the dust spray was used

Referring back to the experiments conducted in the Northwest, some light can be thrown on the supposed failure of that time, when it is understood that the only material then used in the process was powdered Bordeaux mixtures, whereas today this has been entirely superceded by sulphur and arsenate of lead, chemicals that were not used in those days. Then, too, the machinery of that period would today be called utterly inadequate. The improvements has been both with the appliances and the application, and while the system has not yet been rounded up into a fixed arrangement of hard-and-fast rules, enough has been learned to place the system by itself as one that proves itself as it unfolds.

The New York State College of Agriculture has now followed dusting methods for five years in experimental work, substituting the dust for liquid, and its expert announces that in trees of the same orchard the results have proved most satisfactory, with as good or better results on trees that were dusted. Experiments have been successfully conducted in vegetable growing, also on asparagus, bush fruits, hops, melons, grapes, tobacco, beans, cabbage, cauliflower, cotton, potatoes and garden crops.

During the past year in Niagara county, New York, experiments have been carried on in a large orchard, the entire orchard being sprayed once for San Jose scale while dormant. For the following sprays, one large block was entirely treated with dust, the balance being sprayed in the standard manner. When the fruit was harvested, each apple from a number of average trees in both blocks was examined, and its condition recorded.

Perhaps the chief constituent of present-day success in dusting is due to the materials used. The mixture for general purposes consists of a mixture containing 85 per cent of very finely ground sulphur and 15 per cent of powdered arsenate of lead. Sulphur is used for the fungicide and the lead for the stomach poison.

Fillers or adulterants are often used to weaken the mixture. For this purpose hydrated lime, talc or terra alba may be used. The diluted mixtures is prepared especially for beginners, and is so prepared that larger quantities may be applies to each tree without wasting expensive ingredients. The formula is 40-10 with 50 per cent of inert filler. This mixture may be used successfully in localities where insects and diseases to be controlled are not extensive.

In order that dusting materials may be used successfully they must be of such a fineness that at least 95 per cent will pass thru a 200 mesh screen. All experience in dusting has clearly shown that upon the fineness and purity of materials depends the success achieved.

For old, high trees, of such kinds as Baldwin and Greening, about two pounds of dust is necessary to thoroly cover, while smaller trees may be treated to correspondingly smaller amounts. Generally speaking the schedule for dusting is practically the same as for spraying, and may be summed up as follows:

First, when the blossoms are in the pink, using the sulphur and arsenate of lead mixture; secondly, dust after the blossom petals begin to fall; thirdly, two weeks later; fourthly, about August first. It should be borne in mind that it is now generally understood that scab infection usually occurs during, or

immediately following, prolonged rainy periods, so it is essential to make a protective application as near as one can to these prolonged wet periods.

The celerity with which dusting can be carried on is greatly in its favor for such exigencies. Of course, the varying twists of each season may make necessary some departure from the general practice. The first application will take the larvae of caterpillars and give early protection against the scab; the second will combat the codling moth and scab; th third will prove the most important one against the scab, and the fourth will be in time for the second brood of codling moth as well as any late scab. In theory this same practice should be followed with the liquid sprays if the orchardist is to keep his trees in the best shape, but often the time required for going over the trees, combined with the usual unpleasantness of the work, has served to keep many growers from using the liquid as often and as methodically as is really required for effective spraying.

With the dusting process a great part of the time required for the work is eliminated, making it within the reach of all growers to go over their orchards fully four times without drastic labor. Altho the first cost of dusting materials is slightly greater than for liquids, the rapidity of the operation and the labor item more than compensates the difference, so that for an average orchard the dusting method would represent a total saving of approximately twenty-five per cent to the tree when all factors are considered. Here is a comparison of costs on a summer application for 350 trees:

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An improved dusting machine should have no trouble in operating forty acres a day. Orchards that formerly took three men and a team two days to spray, can now be given the same attention against most insects and diseases by one man and one horse in three hours of time. There is practically no difference in materials, except that the water is withheld. Enough of the material can be carried conveniently on the wagon for a half-day's work. Wet seasons and soggy ground do not interfere in any way with the work, as the total weight of the rig complete is less than 1,000 pounds.

The time and labor economies are valuable items that greatly over-balance the additional cost of materials. In many localities it is well near impossible to secure sufficient competent labor at critical times. This problem is well cared for in the large areas that can be covered in one day. Time that was formerly given to spraying may be devoted to other crops at a vital time of the year. Likewise the horse labor may be used in fitting and sowing other fields.

As both materials used are insoluble

(Continued on Page 28)

Don't Pot Your Trees

Drawn from actual photo—Note marked difference in growth between tree planted in blasted hole and tree planted in spade-dug hole.

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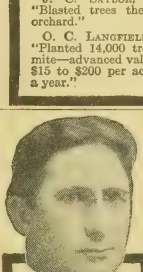

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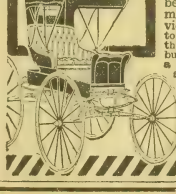

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Improving the Home Grounds

Difference Between "Home" and Just a House Lies in Neat Fences, Well-Kept Lawn, Flowers and Trees

By W. F. Purdue

WHENEVER the home of a family comes to mean more to the members than a mere lodgment from cold or rain, wind or sun, there will spring up, very gradually perhaps, but none the less surely, a desire to improve it.

Undoubtedly a great deal can be added to the enjoyment of life upon the farm by beautifying and improving the home and its immediate surroundings. To the casual observer of country life nothing appeals quite so forcibly as the outer appearance of the farmer's home and possessions.

Good substantial fences around the lawn are really essential in the country, where there are always wandering fowls and animals to destroy grass and flowers in the unfenced lawn. For the front of the lawn one of the standard lawn fences of iron and woven wire is to be preferred, unless the owner wants a hedge or stone fence. Since the poultry yard usually adjoins the lawn, a close-mesh woven-wire poultry fence should separate the two plots of ground, while those sides of the lawn which adjoin the barnyard or pasture fields should be fenced with a strong woven-wire stock fence, which will turn small pigs. Iron or concrete fence posts give the premises a neater appearance than do wood posts.

Walks and drives about the home must necessarily vary to meet local conditions. Concrete walks are to be preferred, of course. Gravel will give fairly satisfactory results if renewed from time to time, and kept packed down. The best gravel walk is made by excavating five or six inches deep and then packing a layer of cinders, which usually can be had for the hauling, three or four inches deep in the bottom of the excavation. On top of the cinders place several inches of gravel and thoroly pack. The best way to construct a concrete walk is to dig a trench a foot deep, fill in with eight to ten inches, according as to whether the completed walk is to be level with the surface of the ground, or extend an inch or two above the surface, crushed stone or cinders, levelling it off with fine material. On top of this spread three inches of concrete made of one part cement, two parts sand and from three to four parts crushed stone or gravel. On this put a granolithic finish one inch thick, mixed in the proportions of 1-2-3. Trowel this down smooth and hard. Joints one-fourth inch in width, and filled with sand, should be left every five feet to prevent the walk from cracking. Concrete steps, particularly at the rear or kitchen entrance of the house, give a completeness to the concrete walks.

Nature uses vines to hide her defects, and man has borrowed the practice. Nature hides tree stumps and rock heaps under festoons of shimmering green. Unsightly outbuildings, fences and rubbish heaps, which cannot be removed at once, may be converted into objects of beauty with a glory daily renewed by growing climbing vines about them. Grown over trellises, porches and arbors, vines provide both shelter and shade. Not all back porches open to the north; the porch which faces in any other direction must be protected from the direct rays of the sun if it is to be utilized as a work room by the housewife on warm days. Having inclosed the porch with wire screen, construct a trellis of twine or wire, and let climbing vines bar the sun's rays. For a dense screen there is nothing better than Dutchman's Pipe, which has extremely large leaves that come early and stay late. Everybody knows the morning-glory. The variegated hop,

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whose leaves are very attractive in their markings, also gives a heavy shade. For permanent locations, perennials are preferable. The annual climbers make rapid growth, and may be used to advantage, while the perennials are getting well started.

The improvements suggested above do not by any means serve an impracticable purpose altho they are intended in part to give the premises an attractive appearance. But there is one improvement which may well be given consideration at this time, and which serves an exceedingly practical purpose. This is, make preparations now for the campaign against house flies. There may be no known method of preventing the annual appearance of flies, but scores of housekeepers have proved that the troublesome insects may be kept out of the house. In the country, especially where the houses are not very close together, the fly problem is practically a local one to be solved on each farm. Flies do not travel far from their places of birth, seldom more than one-half mile. It is therefore very important that the premises be given a thoro cleaning, and all possible breeding places destroyed in early spring. An hour's work of good cleaning up in April and May is worth a whole day's work later in the season. At this time throw lime in all cesspools and closets. And banish the swill pails and barrel from the backyard for the summer. These always attract immense droves of flies to the kitchen door.

Without a great deal of work or expense the house and porches can be screened against the invasions of flies. As previously suggested, the back porch can advantageously be used by the housewife in warm weather, if screened and shaded, for doing a portion of her kitchen work. Wire screen costs, in the writer's community, fifteen cents per running yard, being thirty inches in width. Less than five dollars will inclose a medium-sized porch so that not a single fly can gain entrance. There should be screens for all outside doors and windows about the house. If the screens fit tight and secure, few flies should gain entrance to the house.

It is especially important that each door fits tight; the door should also have a strong spring attached to it, so that it will be self-closing. The doors are used often, and in case any one goes thru one hurriedly and does not take time to close it, it should close of its own accord.

The farmer who possesses a work shop and carpenter tools can readily make screen doors and windows himself, and effect a considerable saving thereby. Recent inquiries by the writer developed the fact that dealers sell screen doors of standard size, painted and ready to hang at $2.25 each, whereas one could buy all necessary materials entering into a door's construction for about $1.15.

For temporary purposes, as for windows, which are seldom used, cloth netting, commonly called mosquito bar, will keep out flies effectively for a time, but the cloth netting does not last long under exposure to the weather. In the long run it is cheaper to construct wire screens for all the windows. Some of the screens may be made adjustable, so that they will slip under a window when raised.

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The Useful Catch Crop

It Has a Place in the Management of Every Farm Where Diversified Farming is Carried On

By R. B. Rushing

ALMOST every spring, especially when weather conditions are unusual or unfavorable, many a farmer is confronted with the need of using a part of his farm with some kind of catch crop, owing to the failure of some other crop.

Few farmers are so successful as to never need to use catch crops, indeed I have yet to see a farm where general farming is practiced, where they could not occasionally be made profitable. In fact, in many systems of rotation the catch crop is worked in regularly, following wheat, rye or a failure of corn, or other crops.

There are many different things that can profitably be grown as catch crops, and I believe that putting in any kind of a crop is better than letting the land lie idle and grow up to weeds. For my own use I have finally simmered my list of catch crops to two plants—the cowpea and sorghum cane. These might not suit all conditions and people, and, in fact, I should not recommend planting them everywhere, for other things, like millet, soybeans, a catch of rape, the vetches, etc., for different localities and purposes, might prove even more profitable than the cowpea and sorghum cane. But under conditions such as ours, here in southern Illinois, several points determine my decision in favor of those two.

The main point, that I never overlook, is the maintenance of the fertility of my soil, for without this fertility I could not grow even these catch crops with profit. Next to fertility I consider the feeding value of the hay grown. In these two respects the cowpea-and-sorghum-cane combination is as near ideal in their purpose as any crop I have ever tried or heard of. I nearly always grow the peas and cane together on the same land.

All up-to-date farmers understand that the cowpea is a legume and the sorghum cane is not. But I do not consider the latter unprofitable on that account. In this sorghum cane I have a feed that is fine for all kinds of live stock, even horses. For my cows I do not find anything better in the non-legume forage line.

It is a fact not generally understood that growing and continually taking of cowpeas and clover will deplete the nitrogen in the soil. The plant when harvested will take as much nitrogen out of the soil as it puts back, or a little more. Yet we must produce feed, and at the same time maintain the supply of plant-food in the soil. We must not only maintain, but increase that supply, or we are not up-to-date farmers. So in using these catch crops, we must not think of them always as a "taking-off" proposition, but we must, at times at least, take the old plow out and roll them under to rot in the soil and make humus and increase the supply of nitrogen.

The cowpea is, in my judgment, almost an ideal crop for increasing the nitrogen supply when turned under. The sorghum cane, of course, does not gather nitrogen, but takes it away; but being a very deep-rooted crop it puts the soil in fine condition down deep, and liberates plant-food that is locked up there, besides fitting the soil to work under other treatment more readily.

Getting the land ready for the catch crop is not often a very difficult task with me. In case of a failure of corn, from worms, cold, overflow or any cause, I usually take four good mules, a good sharp disc and a small-tooth smoothing-harrow, and put the land in nice order in a hurry.

I let the disc go down about four inches deep. Even if the land is packed somewhat, it will cut it up fine, and the harrow following it makes an ideal bed for the seed of the catch crop. Should the land be rough, it may be necessary to double disc it. In such case I double disc, sow my peas at the rate of one to two bushels per acre, depending on the strength of the land, and what I intend to do with them, then harrow once and sow my cane seed at the rate of one-half to one bushel per acre, then harrow lightly again. Thus the land is put in fine condition, the seed properly covered, and even in dry weather, under such preparation, the seed will germinate and grow rapidly, until in a short time the land will be shaded enough to prevent much moisture evaporation.

I nearly always sow a catch following wheat, for I do not want the weeds to grow up rank and seed the land. If the spring has been rather moist, and the land has been packed by excessive rains, I usually follow just about the same plan as described above for the catch following corn. But if the land has become packed hard, it may be necessary to plow immediately after harvest. In such cases I stack the wheat as soon as possible, then all the available plows begin at once turning the wheat land, with the roller following to crush all the clods and hard lumps. Then two good mules pull the disc over this, for it is not necessary to do anything except just loosen the land.

Following this discing I sow the peas, and harrow again lightly. The cane seed is not sowed at the same time with the peas, because they do not need to be covered so deeply as the peas. By harrowing the land the first time the disc furrows are leveled somewhat, so that the cane seed is left near the surface. Thus it germinates quicker and gets thru the ground more easily. When they first sprout they are quite tender, and if they have very far to go before reaching the surface, they are likely to not get thru at all, or at least come thru slowly, and what I want is a quick germination and rapid growth from the start.

At the time of year when we must sow the catch crops it is very likely to be very dry; thus it is very necessary that we use some crop that will resist drouth and at the same time make a

good growth. In these respects few crops equal the cowpea and cane. I have often sown cane when the land was very dry, but pulverized well, and, altho no rains came for some time, the crop came up surprisingly. Peas resist dry weather almost as well, and the two together make almost an ideal growth. The cane holds the peas up off the ground so that they can be mowed better.

RAPE FOR PASTURE

The man who is looking for a crop which will make a profitable hog or sheep pasture cannot afford to overlook rape. It furnishes an abundant yield which is greatly relished by those animals; it is easily grown and can be sown most any time in the spring or early summer after there is no further danger of severe frost. It will endure a severe frost in the fall, and can be pastured late, provided stock are kept off when it is frozen.

It does best on rich or heavily manured land, and can be grown well on lots used for feeding stock during the winter.

The seeds of rape are small, and for that reason it is important that the soil be finely pulverized before they are sown. It may be sown broadcast or drilled in rows about twenty inches apart and cultivated. The latter method requires more labor, but has an advantage over broadcasting, in that weeds can be better controlled, and that the animals will follow the rows when feeding, and not destroy so many plants by tramping on them. When sown in rows, three pounds of seed to the acre should be sown; broadcasting requires from four to six pounds to the acre. The seed usually costs from six to ten cents a pound.

Rape is frequently sown with oats, and after the oats are cut the rape plants furnish a large amount of pasture at the time that grass land pastures are usually short. Some farmers follow the practice of sowing rape in their corn at the last cultivation and covering it with a harrow-tooth cultivator, or a mower wheel dragged between the rows.

The length of time after the seed is sown before the stock should be turned upon rape pasture is from six to eight weeks. Small pigs may be turned upon it when the plants are eight inches high, but large hogs should be kept off until it has reached a height of twelve to fifteen inches.

In order to obtain the greatest return from a patch of rape it is necessary to remove stock from it while it renews its growth. Two patches sown at different times can be utilized to good advantage. While one is being pastured the other is producing a new growth.

Stock will not injure the stems seriously until all the leaves are gone, and if removed before the leaves are quite consumed the stems will produce a new growth within a very short time. An acre of rape will furnish sufficient forage for fifteen or twenty 100-pound hogs during a large part of the summer if they are alternated between two pastures.

Sheep, calves and cattle relish rape, but bloat on it when wet, as on clover. Dairy cows pastured on rape produce a tainted milk.

RIDDING SWINE OF WORMS

Next to hog cholera ,perhaps no other one trouble gives more bother in growing swine than worms. Yet, according to Dr. C. H. Stange, dean of veterinary medicine at Iowa State College, worms may be disposed of quite easily. Dry, well drained pastures and feed lots will help get rid of this trouble, and so will a wholesome water supply and clean feeding troughs and floors.

For medicinal treatment, Dr. Stange recommends the following formula:

Santonin, 8 grains; calomel, 1 grain; areca nut, 2 drams; sodium bicarbonate, 1 dram.

The above quantities comprise a single dose for one hog weighing 100 pounds and they should be increased or decreased as the animals run heavier or lighter. To get the dose for a herd of swine, multiply the dose for one animal by the total number. Mix the worm powder thoroly with some moist ground feed and give it in such a way that each hog will get its share of the medicine. Do not use too much feed, because that dilutes the medicine too much. The most satisfactory results are secured when the hogs are divided for treatment into lots of 20 or less. Food should always be withheld for 24 hours.

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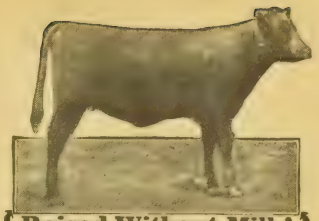

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Sanitation and Temperature

Two Vital Factors in the Preparation of Dairy Products

By John Underwood

THERE is always a reason for it when the butter fails to "come" after a reasonable amount of churning. There are in fact a number of different conditions which may combine to cause the difficulty, or any one alone may do it.

One cause of difficult churning is attempting to churn unripe cream, or cream which is too thin. Properly ripened cream is about as thick as molasses. When a cup is dipped into it a thick coat of cream should adhere to it, and it should be pleasantly acid, free from lumps either of cream or curd, and without any whey in the bottom of the can. Such cream, if churned at a temperature of 54 to 58 degrees in warm weather, and 58 to 68 degrees in cold weather, ought to be made into butter in half an hour, provided the churn contains the proper quantity.

Having the proper amount of cream in the churn is important. Failure to give attention to this point accounts for much unnecessary time spent in churning. For best results the churn should never be filled more than one-third full of cream. It swells upon being agitated, and when too much is in the churn, the lessened opportunity for concussion results in a longer time being required to bring the butter than would have been the case with a smaller amount. The temperature of the cream at time of churning is very important. Trouble is likely to result unless a reliable thermometer is used.

Some cows yield milk with fat much harder in composition than others, and this is the reason the cream of one cow will stand a higher degree of heat than will that of another cow. Trial should be made, and the temperature found to be most satisfactory adhered to. To do this one should have a Babcock testing outfit, and determine by its use exactly the amount of waste going on. Too high a temperature invariably means a loss of butterfat, while too low a temperature unnecessarily retards the churning process.

It might be added that sometimes conditions of special bacteria are at work, causing stringiness or ropy milk, or other disturbances may have an influence and require a special sterilizing treatment for their eradication.

PROPER TEMPERATURE IMPORTANT

In making dairy products temperature is a factor that requires thoro knowledge. Too high a temperature causes rapid souring or ripening of cream, resulting in heavy losses of butterfat thru decomposition of the milk sugar, and the breaking down of the solids contained in milk, and too low a temperature causes a loss of quantity as well as quality.

If one has a thoro knowledge of the proper temperature most suitable to apply to milk, cream and butter at different stages, he will have no trouble in making and handling the products, provided absolute cleanliness in every detail is observed. Improper temperature during the making process is the cause of much of the poor quality butter put on the market.

Another point to bear in mind is that moisture affects temperature, and that milk and cream decomposes more rapidly in a moist atmosphere than in a dry one. Molds will develop in a damp dairy house, the result being musty flavors in the butter. If milk is set in a humid place, considerable loss of

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cream will occur, and also a deterioration in the resultant butter. When the dairy house teems with moisture, the windows should be opened, and the place dried out as quickly as possible.

To make the most of milk it is necessary to know how the temperature and other conditions affect the conditions of the milk, for from its component parts are produced not only butter and cheese, but at least half a dozen nitrogenous foods which are valuable for their flesh and muscle forming properties. Heat coagulates albumen at a temperature of 150 degrees F., as is evidenced by the skinlike appearance that is to be seen on milk when it is sufficiently heated. Heat also has the effect of hastening the souring process, by causing greater activity in the bacterial flora, which converts the milk sugar into lactic acid, and in due time breaks down the solids of milk unless checked, causing strong rancid flavors in butter and the characteristic flavor in cheese.

The cream or curd is precipitated by the addition of rennet, as in cheesemaking, or by the acidity of rennet in the milk when it sours. To register the temperature of the dairy house a reliable thermometer should be kept hanging on the wall. A floating thermometer, which can be purchased for only a few cents, is an essential, and it must register 212 degrees F. (the temperature of boiling water), otherwise it will burst when put into boiling water or pasteurized cream.

The following will serve as a guide to the uninformed as the application of temperature to milk, cream and butter:

Temperature of milk. New milk 98 degrees F.; milk for separating 88 to 98 degrees F. Temperature of cream: For natural cream ripening, when churning three times a week, temperature of dairy house 58 to 60 degrees. For natural cream ripening, when churning at end of two days, temperature of dairy house 58 to 60 degrees, for natural cream ripening, when churning at end of five days, temperature of dairy house 53 to 54 degrees. Temperature for churning in summer 54 to 58 degrees, for churning in winter 58 to 68 degrees. Temperature for washing butter in summer 48 to 56 degrees, for washing butter in winter 58 to 68 degrees.

SKIMMILK PROFITS

One of the most profitable branches of dairy farming comes from the proper feeding of skimmilk, not only is it a grand feed for calves, pigs and poultry, but it keeps a large amount of fertility on the farm.

Let us see what it costs us to raise calves for veal on whole milk in comparison with the feeding of skimmilk. If we feed a calf five quarts of whole milk at a feed for five weeks, or seventy feeds in all, it would consume 700 pounds of milk, which at $1.60 per hundred, would amount to $11.20, and if in that time we should get the calf to weigh as much as 140 pounds, and get 8 cents a pound for it the returns would be just $11.20, which only breaks even on the milk proposition, without considering labor or care and feeding.

If the small calf had been fed on skimmilk, about 1000 pounds, at say

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20 cents per hundred, the cost would have been only $2. Add to this ten pounds of oatmeal and thirty pounds of cornmeal to make fat, which we will say cost 70 cents, and we have a total cost for feed of $2.70. Allowing 7 cents a pound for the fed calf, $9.80, which gives a profit of $7.10 for the skimmilk calf against no profit on the calf fed on whole milk.

The reason for all this is that the skimmilk contains all the feeding qualities of whole milk, with the exception of the fat, which can be replaced at smaller cost by adding grain. Prof. W. D. Hoard says that upon a well-managed dairy farm, skimmilk is worth 50 cents per hundred for feeding to grade dairy calves, and is worth considerably more than this to feed to purebred dairy calves. It has been found by practical experience that from 3,500 to 4,000 pounds of skimmilk is sufficient to raise a splendid calf, and with $6 to $7 worth of other feeds the calf would be worth from $25 to $35 at the age of six months.

At these prices it will make skimmilk worth from 50 cents to 70 cents per hundred. For pig feeding, investigations have shown that 100 pounds of skimmilk is worth one half as much as a bushel of corn, so when corn sells for 80 cents per bushel skimmilk is worth 40 cents per hundred. Moreover the skimmilk contains considerable fertility, which is a factor to be considered in disposing of it. In selling whole milk for city consumption, or to cheese factories, the dealers should pay the producer as much for fat as the creamery, and enough more to equal the feeding value and fertilizing value of the skimmilk.

Of course, the cities must have milk, but they should be willing to pay for it on a comfortable basis with the creamery, for the producer who sells his whole milk is disposing of a valuable feeding product, and at the same time must pay some attention to the replacing of the fertility which is taken away in the milk.

We should not lose sight of the fact that our soil is our bank, and in drawing out from year to year we gradually diminish the store of plant-food, unless we put back as much or more than we take out. True farming is that in which we market only the finished product.

CROSSING BREEDS POOR PLAN

Every now and then a man who has spent a good deal of money breeding up his dairy cattle gets the idea that he wants to cross the breed he has with some other that has taken his fancy. In nine cases out of ten the result is disastrous, but the fact that on the tenth time the progeny may have the desirable characteristics of both breeds will always lead some men to attempt it.

The trouble about this is that it defeats the very object for which men have been working for centuries. Certain types have been developed, and kept as pure as possible, so they might regularly transmit their desirable points to their progeny. I have seen cross-breeding tried a number of times, and I know no man can tell what sort of an animal he is going to get from a certain cross. The mixing of the blood

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breaks the chain of inheritance, and one may get a "throwback" that will remind him of what the first wild calf must have looked like. When one makes the cross he breaks the long chain of inherited traits that may reach back for half a thousand years.

I know a herd of Holsteins that was in a fair way of being ruined by cross-breeding several years ago. The owner was progressive in his ideas, but he was lacking in exact knowledge. He must have reasoned that crossing the Holstein and the Jersey would produce a cow giving the quantity of milk characteristic of the Holstein and retaining the rich qualities of that of the Jersey.

He tried crossing, but it failed to work out very well. He got a few good cows, but most of them were far under the standard for either breed, and he woke up to the fact that he had so mixed up his herd that he would have to start all over again. It is just getting back to where it was when he started the experiment. The fact that the first cross produced some pretty good animals kept him working along the wrong line longer than he otherwise would. The trouble came in the second generation, with a bunch of weedy, nondescript calves that were far from being fit for future use in the dairy.

If those who get good bulls, and start to raise better calves, would keep at it, there would be a big change in the average dairy animal. I have known men to get a first-class sire, keep him a year or two, let him get spoiled and breachy, and then sell him for much less than they paid for him. Then they would go back to the mongrels of the neighborhood, and all the good results obtained from the use of the good bull would be lost.

This happens again and again. Such men never seem to learn wisdom, being content to make a temporary change for the better, and then slip back in the old ways. To keep going right the purebred bull is an absolute necessity. Having got together a few good cows of any one of the noted dairy breeds, under no conditions or circumstances breed them to a sire of another breed. If the cows are Holsteins breed them to a Holstein bull. In the long run this will be far more satisfactory than mixing the blood.

HEALTH GUIDES

To secure a smooth complexion, use sandpaper.

For indigestion, drink anything that will divert the mind.

Eliminate boils as soon as they appear, using scissors or file.

For a sore toe, first cut off the toe.

When germs are present, kill them; saving yourself if possible.

For chills, hot air; for fever, ice; for sweats, a mangle.

All bad eyes should be replaced with glass. It is sanitary.

If the throat is sore, remove tonsils; if still sore, remove the larynx; if that is not sufficient, examine thoroly and operate on the nose, ears, or stomach as preferred.

Before an attack of appendicitis, examine bank account.

Gray hair is a boon. It may be dyed any color.

For a child prone to convulsions, try the movies. —From Judge.

Prosperity in Canada

$900,000,000

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ENORMOUS CROPS and LOW TAXATION Make Farmers Rich

CANADA, enjoying wonderful prosperity from the products of the farm, the orchard, and the centers of industry—Canada has come into her own. No country wrote a brighter page of history in agricultural and industrial development during 1915 than Canada. All industrial plants working overtime. Wheat average, 36.16 bushels per acre in Alberta; 28.75 bushels per acre in Saskatchewan; 28.50 bushels per acre in Manitoba. All other grains showed similar large yields per acre. Taxes average $24 and will not exceed $35 per quarter section. This includes all taxes. No taxes on improvements.

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Good land from $11 to $30 per acre. Irrigated lands from $35, and the Government guarantees your land and water titles. Balance after first payment extended over nineteen years with interest at 6%. Privilege of paying in full at any time. Long before final payment becomes due your farm should have paid for itself.

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Ready-Made Farms for Sale. Farms which we have developed by providing house, barn, well and fencing and in some cases cultivation for sale. Special easy terms.

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We Want You, We Can Afford To Help You. We own the land. We want the land cultivated. Our interests are mutual. Buy direct and get your farm home from the Canadian Pacific Railway. Send for free book.

J. S. DENNIS, Assistant to the President
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76 Ninth Avenue
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$275 MOTORCYCLE—FREE

SOLVE THIS PUZZLE

Can you find the hidden word in the cards? Try it. The word contains six letters. Send answer with your name and address at once and you will be considered in awarding $275 Indian Motorcycle and 16 other prizes given away on June 30, 1916. Answer today and we will send you 1,000 votes toward $275 Motorcycle. Duplicate prizes given in case of tie. Whether you win the Motorcycle or not, you get VALUABLE PRIZES and CASH REWARDS. FARM LIFE, DEPT. FN4 SPENCER, INDIANA.

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Don't worry longer about rough roads or hard steering.

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Because of our enormously increased output, the price has just been reduced to $10 instead of $15.

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Commence to really enjoy your car. Our cantilever principle removes these side slaps and thrusts and makes steering easier over rough roads or at high speed. This principle also gives that much desired different tension between the upward and downward thrusts. Comfort is assured.

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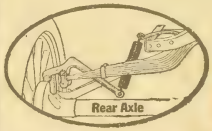

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Prove to yourself that it clears your land cheaper. Let the Kirstin's superior features demonstrate their value right on your own farm. Less weight—greater strength—lower cost—greater speed—all these valuable qualities are made possible by the Kirstin Quick-Detachable Connections, Auto Release, Non-Twisting Cable and other Kirstin patented features.

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Country Schools and Farming

(Continued from Page 7)

and work at home in advancing scientific dairying in the entire district.

So successful has this work been that it is no longer necessary in most cases for the teacher to reach the farms thru the pupils. The farmers send their milk in regularly for testing, and in many cases father and son cooperate thru the school in building up a better herd, or in working out rations, barn sanitation, and other plans for the betterment of the herd and its increased productivity.

Another highly practical and valuable plan was carried out by the Niagara schools under the leadership of Mr. Haufschild. A couple of years ago the boys of the manual training class were encouraged to build modern chicken coops and an incubator. Money was raised for hatching eggs, and eventually the school owned a small flock of chickens. During the summer months, when the school was closed, a woman on a small farm near the village, who had become interested in the work, offered to feed and care for the flock. With the opening of the schools in the fall the boys again resumed management of the flock, and it has since been maintained entirely by the school. Feeding and laying records are kept by the class as part of the work in agriculture.

How agricultural work in the rural schools may be directed as a powerful and compelling stimulus in better farming thru the district has been ably demonstrated in several other districts of Marinette county, among them Crivitz, Athelstane and Pembine, all of them localities built up by farming from new lands in the past few years. As the subject of agriculture is brought up in class the pupils are led to talk of the best farms in the community. From this point the work proceeds to why the farms mentioned are the best farms. It is brought out, perhaps, that some farmer mentioned is getting five to six tons of alfalfa per acre while some other farmer has failed with alfalfa.

"Yes, but he used lime," pipes up one little fellow. He says it almost as if the successful alfalfa grower had taken a base advantage of the other farmer. Here is splendidly laid the groundwork for instruction in a simple test for soil acidity. Prepared in advance with a little litmus paper, which can be obtained at any pharmacy, the teacher sends a pupil for a sample of soil from some certain field of some certain farm near the school. In the meantime it is demonstrated to the class that the application of acid to the litmus paper will cause a reaction, changing the color of the paper from blue to red. This is followed by placing a piece of the paper in the soil sample, after the soil has been dampened. It is left fifteen or twenty minutes and then the paper is withdrawn. If it is found the litmus paper has been changed in color from blue to red in the soil, the fact that a correction of the soil acidity by the use of limestone is necessary follows as a logical conclusion. The lesson is driven home so hard, by the intense interest of the pupils, that when they become farmers they never farm a

field without first determining its soil elements.

But I said this brought about a powerful stimulus to better farming thruout the district. How? Well, Willie Jones, whose father is not making a howling success at farming, goes home and tells his "dad" that he wouldn't have failed in his efforts to raise alfalfa if he had first determined whether the soil was sufficiently supplied with limestone. Pa Jones tells Willie to mind his own business. But Willie is a persistent youngster, as most of them are, and he tells Pa all about the soil test. Pa affects to be not concerned; in reality every word is sinking into his mind. He knows in his own heart that part of his failure is due to not using his brains as well as his hands in farming. He won't admit to Willie that anyone is a better farmer than he is, but he has to admit it to himself. Effort to justify himself in Willie's eyes, if in no one else's follow, and it isn't long until Willie has Pa up to his neck in testing seed corn, keeping milk sheets on his dairy herd, installing a ventilator system in the dairy barn, determining why he could never make any money at raising swine, and a hundred and one other things which Pa must know to be a successful farmer.

All in all, it is the practical application of the enthusiasm and intelligence of Young America to the problem of bettering farming methods, and keeping the youths on the farms.

HANDLE THE YOUNG COLT OFTEN

Make friends with the colt before it is weaned. ePt and handle it often while it is young, when you can approach it readily. A colt should always be broken to the halter before it is weaned. tI should also be taught to lead readily. Of course the colt will not lead right off. But deal gently with it at the start, and it will soon be leading up like an older horse.

After weaning it pays to take the necessary time to handle the colt frequently, so that it will not grow up into a wild young thing that will allow no one to approach it. Go to the pasture field occasionally with a halter for the special purpose of leading the colt up to water. In this way it can be kept gentle all the time.

Curry and brush the colt, too, while it is young. Not only does it need currying, not so frequently as an older horse, it is true, yet often enough to keep its skin in a healthy condition, but it does not take so much to teach it to be curried while young as it does if you wait until it is two or three years old. It is a good plan also to lay a set of harness on the young horse occasionally just to accustom it to the "feel" of the harness.

When the nights become frosty put the colt under shelter each night, giving it its liberty again the following morning. It never pays to confine a colt unnecessarily, as it needs lots of exercise and fresh air in order to develop bone and muscle and to grow into a large shapely animal, but it should not be exposed to storms and cold winds at night.—P.

Don't insist on keeping your health all the time. It's stingy.

—Tod Chenevix, in Judge.

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C. G. PHILLIPS THE WOOL FAT MAN

"We have never found anything yet that will do the work like Corona Wool Fat. For sore cow's teats it has no equal, and for cuts on horses it heals up so smooth and nice leaving no bad scars."
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If you have never sent for a trial can of Corona Wool Fat simply write me, giving your name and address plainly and I will send you this big can postpaid, by return mail. All I ask is, if satisfied after 20 days' trial, that you send me 50c. If not satisfied, write and say so—you won't owe me one cent. Send today. Mention ailment you intend to use it on.

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It heals Barb Wire Cuts, Sore Shoulders, Old Sores, Ulcers, Wounds, Sore Teats of Cows, takes out the soreness of inflamed udders.

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Don't worry—don't find excuses—no experience is necessary—business supplies the capital. You don't have to wait a month—not even a week—payments can start the first day—and continue daily up to $1000.00 per month, per county. For years we have been quietly picking men from all walks of life, ministers, clerks, farmers, preachers, doctors, lawyers, teachers and so on—enabling them with our co-operation and $50,000.00 appropriation to get what we here offer and can do for you—$1000.00 per man, per county. Some of these men you may know—possibly have envied without understanding the reason of their prosperity.

INVESTIGATE AND BE AMAZED Demand absolute proof—accept no other kind. Either we have the best thing that ever happened or we're colossal liars. Ask Schleicher, minister, whether it's true that he received

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No..... Size.....

No..... Size..... Address.....

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We want three hundred representatives at once—men or women hustlers—to advertise, accept orders and manage deliveries for our new **Quickedge Knife and Shear Sharpener.** Sharpens any kitchen knife, paring knife, carving knife, bread knife or shears and scissors **in ten seconds.** Agents are taking orders at every house—**wiring for rush shipments.** Write today for this opportunity to make $10.00 to $20.00 every day—over

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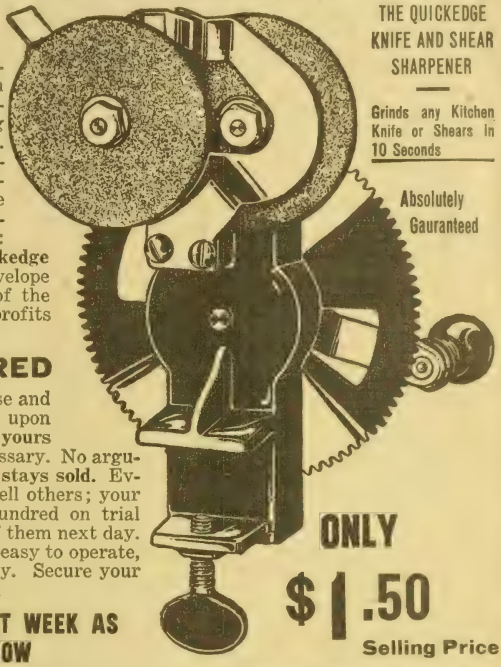
This little machine is a mechanical masterpiece. A child can use it. Just put knife in slot—turn crank—**grinds automatically**—draws blade to keen, sharp, perfect, lasting edge **at absolutely correct bevel for daily use.** Nothing to adjust—nothing to change, nothing to wear out or get out of order—**absolutely guaranteed**—will last for years—once they see it and use it women will not do without it for ten times its cost. One agent wrote: "It was easier for me to learn to sell the **Quickedge** than it was to learn to tear open my pay envelope in my former dollar-a-day job." Get out of the dollar-a-day class. Get this position, where profits start the first day.



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Absolutely Gauranteed

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Just take one of the machines to any house and show it—give a ten-second demonstration upon the dullest knife in the house; **the order is yours right on the spot; instantly.** No talking necessary. No argument. The machine simply sells itself; **and stays sold.** Every customer becomes your friend. They tell others; your profits double and multiply. Leave one hundred on trial over night. Collect the cash for every one of them next day. **The machine will do its own talking;** it is so easy to operate, no explanations or instructions are necessary. Secure your county now; **free.** Get started right now and

ONLY $1.50 Selling Price

MAKE AS MUCH MUCH MONEY NEXT WEEK AS THESE MEN ARE MAKING NOW

J. C. Lewis, of Kansas, says: **"I have sold one hundred Sharpeners in four days."** Hobart Kerr, of Md., writes: "The women can hardly wait till they get them." Herbert Cain, of Ky., sold nine after supper. At the end of his first day, J. W. Gordon, of Pa., writes: "I have sold two dozen, and **I sold to every one I saw."** Wm. G. Hall, of N. J., says: "I think it is great; I sold six in about one half hour. The machine is a mighty fine proposition. **I am a mechanic, and I know what I am talking about."** Peter Courtland, of Mich., writes: "I received your sharnener and opened it in a barber shop. I ground his shears, and got an order for one right on the spot." H. A. Henkel, of Va., says: "I have examined it and find it a wonderful little machine. **The workmanship is simply perfect."** Frank King, Colo, says: "Sample received Saturday. Sold ten today. Sell to most every house." Forest Webb, of Pa., says: "Went out Monday afternoon for about three hours and received one dozen orders. **Profit $12.00."** H. Tillery, of Tenn., wrote: "Took three orders first hour. When you sharpen an old knife, dull as a hoe, in less than a minute, **they sit up and look."** Ray Carter, of Mass., writes: "I went out two days and have orders for thirty sharpeners." **Profit $30.00 for first two days.** John Durr, of Wis., also says: **"I have sold thirty in two days."**

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We will give a two years course of piano instruction free. Ask about our insurance plan.

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The Farm Housewife

Things Which Make Work Easier and Life Pleasanter

THE wise housewife has eyes and ears always open for suggestions as to means of making work easier, or the home pleasanter. One of the wise ones noticed (really saw) the wire rack on the inside of a kitchen-cabinet door shown in an advertisement. Result: She bought four dish-drainers at the household supply counter in a department store, and fixed them at convenient spaces on the inside of her pantry door, and forthwith the covers and many things that had cluttered the shelves found their place where they were more convenient to get at—and the pantry took on a more tidy look.

After a time, a couple of these same sort of racks found a place at the back door for the holding of rubbers and mittens, and then a nickel towel-rack, such as is used in bathrooms, was put on the wall near the front door, outside, to serve as an umbrella holder while waiting for them to drip.

Another woman realizing that the wrong side of closet doors were so much waste space arranged bags in tiers, nearly covering the door with them, in which she kept patterns, rolls of pieces, hosiery, or other small articles. These bags were more like pockets, being flat and wide, and easy to get things into, or out of.

One wise housewife was found using a child's play-broom when brushing down walls, and a comment led to the explanation that she used a child's garden set, in the garden, whenever she could, adding that the everyday work was hard enough without using strength for the handling of working tools heavier than necessary.

One day, when several women were together, and a number had mentioned things learned by observation, one housewife suggested the formation of a club, and the holding of regular meetings, the only requirement of membership being attendance and the bringing of some bit of information gleaned during the interval between meetings.

WOMEN OF THE FARM

It is said women living on the farm want more consideration. While we do not think women of the interurban sections fully realize their advantages, such as the purer air, and freedom of action which the social routine-bound woman of the city cannot have, she naturally wishes a clearer realization of her rights and capabilities than is generally given her.

Because she is interested in the raising of chickens and making of butter does not signify that she will not enjoy reading the last new book. If she is not an ardent suffragette, she is not blinded to the news of the world's doings. She wants a good coop for her chickens, and a separator to help with her cream. Then she wants the best farm paper to help her out—not with theories alone, but with actual experiences. She is just as anxious that her new dress, perhaps bought with the money from her butter and eggs, be made in the mode of the present as is her city sister, whom she sometimes envies. She is also wishful for the many helps this sister enjoys. Gas is still denied her, but the oil stove and the fireless cookers can be used to great advantage, especially in summer.

The present year promises well for the farmer, and while he generally has every help, his wife should be remembered also. Men are, as a rule, thoughtless about these matters. They should be convinced that the health of their wife is the best asset on the place, and that there are many little helps toward assuring this. The ten cent stores of the city are full of things to lighten household labor. A small out lay each visit to town will keep the kitchen tools up to date, and yet refresh your interest in your home.

Those of the interurban have great privileges—the area of green, which rests and strengthens the eyes, the freedom from smoke, and absence of constant temptations for the children. The freshness of vegetables, butter and eggs. You know just where your supply of lard, and meat comes from. It is not alone this physical betterment, for to soul and mind comes no greater joy than communion with nature when we seek it in God's country places.

Tired housewife and mother, try this silence with nature. If not by day, listen to voices of the night from tree and earth. Look at the sparkle of the star in the blue above. Breathe deeply of the sweet air, forget your troubles, believe they will disappear, feel that you hold the key to happiness in your own hands, this will tend to restful sleep, and lighten your cares of the morrow.

Have faith in your environment and push all its possibilities toward what you wish it to be, for believe me, dear sister, it lies within ourselves to broaden our life by cheerful endeavor. You are rich and blessed if your home is on your own farm.

VARIOUS WAYS FOR THE FARM GIRL TO EARN MONEY

Every spring one farm girl makes and sells dozens of window boxes painted or stained a dull green and filled with moss, ferns and plants. She sells them to city customers at two-dollars each, delivered. Moss, ferns, etc., are gathered from the woods, also purple and yellow violets grow wild; white violets, striped grasses, geraniums, ivy,

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snow-on-the-mountain, forget-me-nots, portulacca, nasturtiums and various other flowers and plants are raised, specially, to fill these boxes.

This girl also raises dahlias, asters, sweet peas, lilies, roses and about every known kind of blooming shrub. The blossoms are cut and sold by the dozen. Peonies and pond lilies bring ten cents each, a dozen lilac or snow ball blooms will bring from twenty-five to forty cents, sweet peas from ten to twenty-five cents per large bouquets, bridal wreath twenty-five cents per dozen sprays, mock orange blossoms (syringa) twenty-five cents per dozen, Asters and dahlias fifty, seventy-five cents and a dollar per dozen. The prices vary according to color, size and variety. There is a great demand for white blossoms, especially for decorative purposes at weddings, christenings, mothers' day, etc. Ferns and the beautiful feathery asparagus foliage are raised in abundance and used with the flowers.

Orders are taken over the phone for may baskets, daisy chains, wreaths, etc., for children's parties and delivery is made via pony and cart or, in case the order is a large one, father or one of the boys takes our girl and her posies to town in the auto truck. Tea roses and carnations are raised in pots and are sold at fifty cents each. Another farm girl is raising parsley in strawberry boxes and selling them to city housewives at fifteen cents each. She finds sale for her parsley the year round and her steady income is nearly all clear profit.

A mother and daughter on a small farm are specializing on horseradish, endive, tomatoes and asparagus. The endive is raised in long boxes in a well lighted cellar in winter and finds a ready market at an attractive price. Asparagus is grown along fence rows, and horseradish grows, volunteer, along the bank of a creek, thus taking nothing away from either fields or truck patch. A regular space, however, is allotted to tomatoes. These are sold in fancy crates holding one dozen each. Chili sauce, catsup, preserves and various other by-products are made from the culls and the finished article is the best of its kind and commands a high price.

Still another farm girl specializes on cucumbers, carrots and cantaloupes. Her friends call her the three C's specialist. She is saving her money for a college education.

Fancy herbs, geese and wild fruit, nuts, berries and flowers such as golden rod, locust and crab apple blossoms, wild roses, honeysuckle, etc., is the delightful combination by which another farm girl earns her spending money. As most of these things grow wild and are usually neglected it is easily seen that her profit is nearly all clear: Geese are raised because they feed mostly on grass and grains that would otherwise be left in fields or feed lot to waste, consequently the cost of raising geese on the farm is practically nothing. An eight-year-old farm girl sells frogs and minnows to fishermen for bait at twelve cents per dozen. She catches them in shallow pools with a net and overages two dozen a day thruout the season. Her home is near a summer resort and fishermen come to her home for the bait. There are hundreds of ways in which farm girls may earn extra money if they will only look about them.

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You Need No Money. We Trust You. We Pay Freight.

What more satisfaction or pleasure could you have than to possess a Dinner Set, so beautiful and so attractive that it would be a joy to your heart and the envy of your friends and neighbors. Here is the way to get it without costing you a single cent. If you will distribute only 12 pounds of our High Grade Belle Baking Powder, giving with each pound a beautiful Cut Glass Pattern Pitcher & Six Glasses FREE, as per Plan No. 2509, we will send you ABSOLUTELY FREE this beautiful floral decorated

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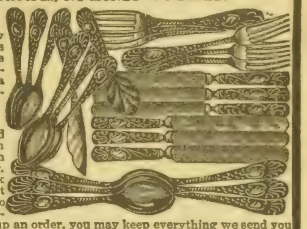
On your premiums and customers' goods and allow you 30 days' time to deliver and collect. In this way you see and know that everything is just as advertised before paying us. Therefore, from beginning to end of transaction you do not invest a penny of your own. Our reliability and the quality of our goods are unquestioned.



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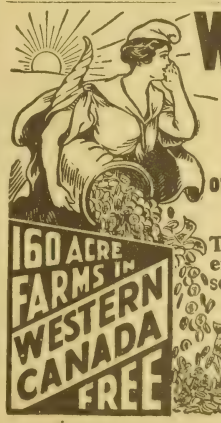

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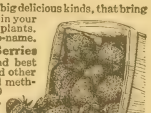

Allen's 1916 Book of Berries fully describes the latest and best varieties of strawberries and other small fruits, giving cultural methods, etc.—the result of 30 years experience. It's free. Write for copy today.

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April in the Farm Garden

Timely Advice As to Fertilizers, Arrangement, Cultivation, and What and When to Plant

By Charles H. Chesley

ONE of the best gardens that we have ever seen was that of a small farmer who had a plot about one-half acre in extent, where he practiced intensive cultivation in a remarkable degree. While many do not have the time that this man had to bestow upon the garden yet certain methods of management which he followed are applicable to every condition. Heavy manuring, careful cultivation and successive cropping are the three things that are sure to bring success. Without them failure will be either partial or absolute.

As often stated in this department, the best fertilizer for the garden is barnyard manure. This should be old and somewhat rotted, hence late fall and early winter are the best times to spread it on. If this labor was not done last fall, it will be better to enrich the garden with common fertilizers and rotted scrapings from the barnyard, hoghouse, and sheppens. Fresh cow and horse manure are not advisable for the general garden, altho late cabbage and cauliflower do well on newly turned sod where new manure is the only fertilizer used. Hen manure is a valuable fertilizer for the home garden, but it is too strong to be used in direct contact with the seeds and young plants. We have used it with success around tomato, egg plants and pepper plants. In these cases it was taken directly from the henhouse, scattered about the plants and incorporated into the soil with a hoe.

In the form of a compost hen manure may be used as a hill fertilizer. The manure is mixed with an equal quantity of rich soil, leaf mold or muck and allowed to ferment. When well heated it should be "cut" over with a hoe or other tool, and allowed to heat a second time. After the second heating the material is ready for use. It is valuable in the large hills of melons, squashes and cucumbers, and may also be used on the sweet corn and other crops. There is still time to make a compost of hen manure as described.

Nitrate of soda is a good fertilizer for root crops, such as beets, turnips and carrots. Bonemeal is also a plant-food that will give good results. These do best if spread broadcast and incorporated with the soil. High-grade commercial fertilizers, such as are mixed particularly for root crops, may be used in the same manner, or in the hill for pole beans, bush limas, sweet corn and cucumbers.

Maximum crops are obtained by heavy feeding. The soil that produces two or more crops each season needs to have a lot returned to it if there is to be no falling off in production.

For the average garden, work with the horse cultivator is not needed. A combination wheel hoe and cultivator for hand work, a steel rake, a weeding hoe and a common hoe are all the tools necessary. The work of cultivation should be started just as soon as the young plants show themselves. With seeds that are slow in germinating it is well to mix a few radish seeds. These come up quickly and mark the rows so that work may be commenced at once. The man mentioned above never allowed weeds to get a start. When this is followed out for a number of years, weeds do not trouble much, but one season of neglect will more than double the labor of the next year.

Constant cultivation, aside from keeping down the weeds, breaks up the surface crust and holds the moisture in the ground for the use of the plants. This is very important during the midsummer season, which is usually a period of drouth.

Arrange the rows so that an early crop may be taken from the land where later crops are to be grown. There should be no idle land in the home garden. Fortunately a sufficient diversity of crops may be grown, so that the entire garden may be kept constantly in use.

PEAS FOR HOME USE

Probably no product of the home garden is more universally enjoyed than the luscious peas fresh from the vines. At the same time it is one of the easiest vegetables to grow. By choosing varieties intelligently, also, the season may be prolonged to six weeks or two months. From one planting it is quite possible to have four or five weeks of green peas for table use. Of course this is not done by planting only one variety. On the contrary, as many as four or five kinds are planted.

April is the month to plant peas in the northern states. Generally it will not pay to plant many of the round-seeded type. Alaska has been the standard extra early for a long time, but an Eastern seedsman is now offering a strain of the same type that is much superior to the old Alaska. This is known as the Best Extra Early and it will produce edible peas in eight or nine weeks. The vines are very dwarf, and all the peas are removed at one or two pickings. Early Gradus is perhaps best of the early wrinkled peas. Nott's Excelsior also comes in as a second early, and no variety can exceed it in quality. Telephone and the Dwarf Telephone are good later varieties. The pods of these are long and well filled.

For canning purposes we use the Telephone, and usually we also put up part of the Gradus crop.

There is no longer any excuse for the gardener to raise the old-fashioned Marrowfat, even tho it may be a prolific bearer, for the quality is far below the standard of the wrinkled varieties.

By planting the following kinds in early April one should have plenty of peas for the table, fresh from the garden, for a period not far from six weeks in duration. Best Extra Early, Gradus, Telephone or Sutton's Excelsior, Champion of England and Potlach. The last is a late dwarf sort.

OKRA

Okra is commonly raised in the South, where it is known as gumbo. In the North, however, it is not so well known, yet it will grow in any latitude that will produce a crop of sweet corn. The plant is grown for its pods, which are used when one inch or a little more in length. At a later stage of growth the pods become fibery and are full of seeds, hence are not edible. The young pods are boiled and served with a dressing, and are used as a flavoring for soups and stews.

Sow the seeds in rows far enough apart to allow for cultivation with the horse machine, making the hills three feet apart in the row. When the plants have become thoroly established, pull out all but one in each hill. Keep up cultivation and the growth will be rapid. The plants are quite ornamental, growing two or three feet tall and having large leaves and lemon-colored blossoms. Seed should not be planted until the ground is warm. It is usually safe to put it in the ground at the time the main corn crop is planted.

YELLOW TOMATOES

Yellow tomatoes are grown in but few gardens, yet the golden fruits are of a better flavor than the red varieties. Any one who has once eaten them will concede this. Plants of Golden Queen, the best yellow variety, may be purchased of all plant growers. This variety grows tall, hence the vines should be tied to stakes and pruned to hasten the ripening process. Dwarf Golden is another variety of excellent quality, but it does not bear as heavily.

There is very little call for yellow tomatoes in the markets, but this is because they are not well known. They are the tomato par excellence for eating raw or freshly cooked. For canning they are also first class where the color does not need to enter into consideration.

APRIL GARDEN NOTES

Plant onion seeds just as soon as the ground becomes workable. Put out the small sets at the same time also. Prize-taker sets, started in the greenhouse or hotbed, may be set in the ground almost as early.

Bring up from the cellar the potatoes to be used for planting and spread them on the floor of a warm room. Tubers started in this way will ripen a crop a little earlier than those that have not been sprouted.

Give the hotbed plants careful attention. See that they are not chilled if a cold snap comes up suddenly.

Eggplants are easily stunted, hence it it best to develop them in pots. They should first be set in two-inch pots, and later shifted to larger sizes. By this method plants with leaves as large as a person's hand may be had to put in the ground the first of June.

There will be much poor seed this year. The wise gardener tests his seed, but if this cannot be done, it will be well to plant liberally and thin the seedlings if they come up too thickly.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

MERRY WAR LYE

in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.

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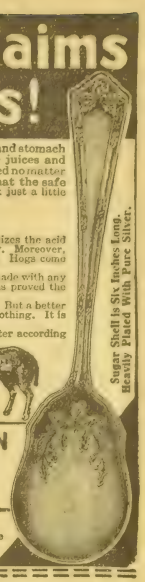

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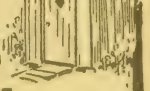

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Every Week on Chicks. *Write me for details showing how beginners with Belle City outfits make $10 to $25 a week on day-old chicks. Get the facts! Any man, woman, boy or girl can do it by following my plan and using my*

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Incubator 402,000 in use. Get the whole story told by the Championship Winners in my big free book, "**Hatching Facts.**" With book comes full description of incubator and brooder—my 10-year money-back guaranty low prices—full particulars—**and my $1300.00 Gold Offers.** Learn how I paid one user $156, another $50, many from $45 down. Write me today for **Free Book.** Jim Rohan, Pres.

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that's what you can make every day in the year "snapping the crowds" at Bathing Beaches, Ball Parks, Fairs, etc., with a **DIAMOND POST CARD GUN** marvelous all-metal camera that takes, developes, finishes 5 sizes of Post Cards, including Official size photo buttons at the rate of 5 to 8 a minute. **No experience needed** no plates, films or dark room required. **Write for free booklet to** Dpt. M13 **International Metal & Ferry Co. Chicago**

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Your spare time is worth $10 a day demonstrating the 1917 Model, Steel, 18-in-1 **Automatic Handi-Tool.** Equals separate tools costing $160. Lifting and pulling jack; fence building tool; stump and post puller; baler; press; hoist; vise; etc. No experience needed. Demonstrator free. Credit given. Exclusive territory. Write for special factory agency offer.
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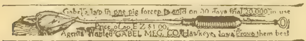

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Thousands Government Positions now open to farmers. $75 month. Write immediately for list of positions. **Franklin Institute, Dept. J117, Rochester, N. Y.**

WILL ADVANCE EXPENSES AND PAY STRAIGHT WEEKLY SALARY OF $18.00 to man or woman with fair education and good references. No canvassing. Staple line. Old-established firm. **G. M. Nichols, Philadelphia, Pa., Pepper Bldg.**

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PANSIES 25c per dozen. Giant Flowering. Assorted colors. Strong plants. **Shook Bros., 617 W. Grand, Springfield, Ohio**

Ducks Are Profitable

But It Requires Some Knowledge of Their Nature and Habits to Secure the Best Results

By J. A. Raiser

IT IS rather surprising that no more farmers keep ducks, as they are easily raised, more easily than either chickens or turkeys. They grow faster than chickens, are less liable to disease, and are free of vermin—three excellent points in their favor.

Pekin Ducks are the most popular variety, owing to their large size and quick maturity. They can be made to weigh nine to ten pounds per pair at ten weeks old, at which time they are about as fine eating as anything in the poultry line. There is usually a good market for both the fowls and their eggs, and their feathers prove another source of profit.

Ducks are voracious eaters, and will eat more than twice as much as chickens, but they also grow twice as fast as chickens, will eat almost anything that is given them, and they do not cost any more per pound than chickens, as a duckling will weigh four pounds when nine weeks old, if of the Pekin breed.

While practically everyone knows something about Pekin ducks, not so very many as yet are acquainted with the Indian Runner ducks, as they are comparatively a new breed in this country. They are not as large as the Mammoth Pekin ducks, but surpass them in production of eggs, and require less feed under same conditions. Mammoth Pekin ducks are largely preferred to raise for market, as they grow very large, but where an all-purpose fowl is wanted the Indian Runners answer very well. They are styled the Leghorns of the duck family. They commence to lay about the last of February, and lay until July or August, then moult if not picked. Then they begin laying again in the fall and lay a fine lot of eggs for market.

These ducks are rightly named Runners, as they are very active, and if allowed free range will pick up a large proportion of their feed, hence they are more cheaply raised than Pekins.

Duck eggs hatch as well in incubators as hen or turkey eggs, and require about the same temperature as hen eggs. The period of hatching is in from twenty-eight to thirty days. Ducklings do not crowd in the brooder, as do chicks, but lie separate and flat. They do not require as much brooder heat as do chicks.

Early hatched ducklings are always most profitable, but they are also the most difficult to hatch at an early period. If the little ducks are chilled the first few days, digestive troubles arise that usually prove fatal. Overheating is almost as serious.

Ducklings should not be allowed to get into deep water until they are at least two weeks old. Nor should they be allowed to "go in swimming" for the first time on a cold, windy day. As they are rather delicate at this age, select a warm sunshiny day for their first lesson, so they will not get chilled. Ducklings should not get wet on their backs when very young. When wet at this age, and the sun's hot rays strikes them, it is very apt to kill them.

As nothing in the fowl line makes a quicker growth than ducks they require food often. Four or five times daily is not too often until they are three weeks old. Then three times daily until they are feathered, after which twice daily, morning and evening, will be sufficient.

It is not profitable to confine ducks in small enclosures. If allowed the run of a wide area, where insects are plentiful and grass is green, ducklings will nearly maintain themselves, and even lay without extra grain food. But when all these things are more or less lacking, laying ducks should be fed a ration made into a mixture by the use of milk or water, as follows: Beef scrap, one part; bran, four parts; cornmeal, two parts; alfalfa or clover meal, one part. This should be fed in the morning, and a mixture of corn, oats and wheat at night.

Ducklings usually start their moult when about eleven weeks old. Market them before they begin. Market ducks should be well fed and fattened; let them have their fill, up to ten weeks or up to marketing. It costs about five cents for each pound of duck flesh, which leaves a fine margin for profit.

Keep plenty of coarse sand, old mortar and a little charcoal in a box for laying ducks. Also provide plenty of carbonate and phosphate of lime to assist shell making. This is found in oyster shell.

Keep laying ducks away from the brook at night, otherwise you will lose many eggs. They should always be locked in at night, and kept on an absolutely soft floor. Also keep them in their pen in the morning until they deposit their eggs, otherwise many will be lost about the streams and ponds. Ducks are not particular as to where they deposit their eggs, but you may rely on it, if you care for them properly, they will deposit you a comfortable little "nest egg" of profit.

For sore feet select only the best carpets.

The rest cure demands beds and couches instead of chairs, this being the most recent discovery essential thereto. —From Judge.

Education is the process of taking blissful ignorance and making it over into inquisitive ignorance.—Puck.

AUTO FREE

We want representatives in every locality. No experience necessary. Send us your name and address and we shall tell you how you can secure one of our new 1916 Standard 5-passenger touring cars free. **Eclipse Motor Car Co., 844-A Cass Bldg., Detroit, Mich.**

MEN WANTED

We positively teach you at home by mail to earn $25 to $50 weekly as Chauffeur or Repairman. Students assisted to positions. Best system, lowest price. MODELS FURNISHED. Write for Free Book.
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Your Last Chance!

FOR THE $5,000.00 CASH PRIZES

Positively your last chance to enter and play The FAMILY MAGAZINE'S $5,000.00 Cash Game. You cannot enter this game after April 29th, but you will have until June 1st to play the game

"This Picturegame was initiated by Family Magazine, and Farm News has combined with them in offering the game to the public. Everyone of our readers can play the game, and you should start today."

Here is the Big Cash Prize List, Which One is Going to Be Yours?

1st prize	$1,500.00 cash
2nd prize	750.00 cash
3rd prize	500.00 cash
4th prize	250.00 cash
5th prize	125.00 cash
6th prize	100.00 cash
7th prize	75.00 cash
8th prize	50.00 cash

and 495 other big cash prizes, totaling in all $5,000.00 cash.

In the event of ties, each tying contestant will receive full prize tied for

Here Are the Judges Who Will Decide

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Editor of The Family Magazine

$5,000.00 in Cash will be awarded to those who submit the largest number of best answers to a few easy pictures, and you can pick out best answers to pictures as well as anyone.

Look at the sample picture below, and then look at the list of titles printed

underneath the picture, and see if you can find the best title to the picture. If you can, then you know how to play the game and should start today.

AFTER THE STORM
BY THE SEA
WAVES OF THE OCEAN

The Family Magazine's $5,000.00 cash Picturegame simply consists of 60 pictures, each picture representing the title of a song or some other musical composition; but you do not have to know one single music title, as all the titles you can use are to be found in our Official Catalog of Music-Titles.

Just what you have to do to win a big cash prize: Get the pictures, (they are contained in a booklet). Get the Catalog of Music-Titles (which contains all the titles you can use.) Get the Reply Book (which enables you to make as many as 5 answers to each picture). Then you look at each picture carefully, and go through the Catalog of Titles and pick out the best title, or titles, to each picture. Then enter your answers in the Reply Book.

This picturegame is open to all, men, women, boys and girls. It's easy, and you should have no trouble in winning one of the big cash prizes.

You MUST start today, as after April 29th, no one will be able to get into the game, although everyone will have until June 1st to go over their titles and submit their set of answers. So if you get into the game NOW, you will have plenty of time to play the game well.

You can play this game expenselessly, and the rules showing how everyone can play without expense, object lesson pictures, etc., will come to you free if you ask for them. BUT YOU SHOULD ACCEPT OUR LIBERAL SUBSCRIPTION OFFER TODAY, THEN YOU CAN GET INTO THE GAME AT ONCE, AND THERE'S NO REASON WHY YOU SHOULD NOT WIN THE $1,500 CASH FIRST PRIZE.

The Picture pamphlet (containing the 60 pictures), the Catalog of Titles (alphabetically arranged, and containing all the titles you can use) and Reply Book (which enables you to make five answers to each picture, and in which you write your answers) will be sent to you absolutely FREE if you will subscribe, new, renewal or extended, to the Family Magazine for five years, paying therefor the regular subscription price of $1.00. ACCEPT THIS WONDERFUL OFFER TODAY, AND DON'T DELAY. YOU HAVE AMPLE TIME TO PLAY THE GAME, IF YOU START TODAY.

Isn't it easy to find the best title to a picture? Haven't you decided that the title "By the Sea" is the best title for the picture? Well, then, that's the way you play this game. You simply look at a picture, then you run through your alphabetical list of titles, called the Catalog, and pick out the titles you think best fit the picture. Start today in this great game, you need the money, and it should be a cinch for you to win.

Absolute fairness is guaranteed to all. The judges of the picturegame are men of high standing and integrity.

Don't Hesitate—Start Today—You Need That $1,500.00 Cash 1st Prize

Picturegame Editor, Family Magazine,
Springfield, Ohio

I enclose $1.00 for which send me your magazine for five years, and as a gift send me free the complete Picturegame Outfit, consisting of Picture Pamphlet containing the pictures, Catalog of Titles and Reply Book in which to write my answers.

Name.....

Full Address.....

.....

THIS LITTLE BOY Had Infantile Paralysis

Six year old Marlen Ohman, Deming, New Mexico, came to the McLain Sanitarium Nov. 25, 1913, with a deformed foot and limb as a result of Infantile Paralysis. Deformities of the limbs, spine and body generally, frequently occur from same cause, becoming more pronounced as child grows older. What may be accomplished in such cases at this Institution is made apparent by the accompanying pictures and the mother's letter which follows:

"All our friends think it simply wonderful that Marlen's foot and leg are perfectly straight, and that he has such good use of it. How thankful I am that I learned of your Sanitarium and its wonderful results before it was too late. I wish every mother who has a crippled child could know of your Sanitarium and its great work—and be persuaded to take her child there."

Very gratefully yours,
MRS. CHARLES OHMAN,
Box 216, Deming, New Mexico.

The McLain Sanitarium is a thoroughly equipped private Institution devoted exclusively to the treatment of Club Feet, Infantile Paralysis, Spinal Diseases and Deformities, Hip Disease, Diseases of the Joints, Bow Legs, Knock Knees, Wry Neck, especially as these conditions are found in children and young adults. Our book, "Deformities and Paralysis and Their Successful Treatment"—also "Book of References" free on request.

THE McLAIN ORTHOPEDIC SANITARIUM
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Leather Bill Book

50c POSTPAID
Name Engraved In 23-Kt. Gold 10c EXTRA

Made of the finest, soft black seal Grain Leather. Combines currency fold, 1916 calendar, card case, stamp pocket, transparent pocket with identification card and two other pockets, all closed with patent friction clasps. Serves seven distinct purposes. Eight and one-half inches long and four and three-fourths inches wide when open. Packed in handsome box for 50c—money order or stamps.

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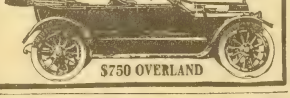
OVERLAND AUTOMOBILE FREE

You can become the owner of this $750 Overland Auto, latest 1916 Model, without one cent of cost. If you want a car send us your name asking all about our wonderful plan by which we give automobiles away. Send no money—just your name.

CORN BELT AUTO CLUB, Waterloo, Iowa
686 Jefferson St



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A Book of 1000 Ways to Make Money

330 pages. Sent post paid on receipt of $1.00. Address

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Dept. 2 Springfield, Illinois

The Dust Spray

(Continued from Page 9)

there is no danger of foliage or fruit injury from "burning," a feature that has proved a most unsatisfactory one to many who have sprayed for years. By the dust method a much better distribution is secured. The cloud of material drifts thru the orchard, covering everything as it goes, and the whole orchard is dusted and disinfected by the time the operation is completed. With the liquid spray the "human factor" comes in, as an ordinary man can hardly cover as effectually with a small mist of spray as with an enveloping cloud of dust. The tiny particles are as fine as wheat flour, and lodge so securely between the pubescence, or tiny hairs, that cover the foliage and young fruit, that they remain on the tree fully as long as the liquid. There is no danger of washing off by dissolving in rain.

As to high winds, they are no more favorable to dusting than they are to spraying. Applications are made with the least waste and best results on mild, still days, altho a slight breeze is no disadvantage. Moisture is not necessary to make the dust stick. One time of the day is as good as another, so far as results are concerned.

There are two ways of preparing the dusting materials: First, mixing the ingredients at home. This is a satisfactory method, providing the equipment includes a mechanical mixing machine and accurate weighing and measuring apparatus. Secondly, commercial mixtures. For the average fruit-grower the second method is the most satisfactory, as such mixtures permit of no difficulty due to inaccuracies of measuring, faulty scales, etc. The prepared mixture can be bought in metal drums which are moisture proof, insuring the keeping qualities under all conditions. Usually there are two prepared dust mixtures, one of pure sulphur and lead, mixed 85-15, and a diluted mixture, 40-10-15, the last being for beginners and for use in sections not heavily infested with pests.

A few hours' experience in handling the outfit should make the operator familiar with the best mode of application for his particular orchard. The plan should be to dust across the wind, using long up and down sweeps of the outlet pipe for big trees and a dense covering cloud for smaller ones. Do not drive too close to the trees as this interferes with proper work. For large trees it is necessary to go up and down the rows covering both sides. If the dusting machine is working properly, and the operator is familiar with his work, the rig should be kept in continual motion. It is not necessary to stop at each tree in order to do good

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A valuable book is being given away by E. J. Reefer, The Expert, 8564 Agricultural Bldg., Kansas City, Mo. It contains scientific facts about hogs that every farmer can put to practical use—and shows how to save all your hogs.

If you have a single hog you should certainly write the expert for one of his free books today. He will send it absolutely free.

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For Boys and Girls FREE

If you have ever dreamed of having a nice little pony, write for my plan that has made it easy for boys and girls to get ponies. All my ponies are well trained gentle. If you haven't a pony and want one send me your name today.

Don't Send any money. Just your name. Or one postcard, just save. Tell me how to get a pony and buggy free, address

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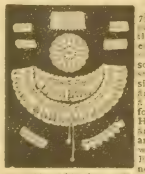
Complete Instruction Book In CROCHET, TATTING, SMOCKING FREE



This book contains 32 pages each 7½ x 10½ inches, printed on heavy calendered paper. There are 48 illustrations of designs for yokes, edgings, luncheon sets, handkerchiefs, lingerwear, centerpieces, scarfs, bags, etc. Full detailed instructions are given for working designs. Amount and kind of material for each is also mentioned, making it a handbook for beginners as well as for those more experienced. The Household Guest is a monthly story and home paper, filled with short and long stories, social and fancy work departments and prize puzzles. Dare to pay for a twelve months' new or renewal subscription for yourself or a friend, we will send a copy of this beautiful Instructor free and prepaid at once. Or send 10c for the book alone.

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Shoots B. B. shot 20 times without reloading. Looks like a regular automatic. Loads of fun for the boys. Perfectly harmless. Send name and we will send you 4 sets of pictures to dispose of at 25 cents a set. Send us the $1 you collect and pistol is yours as free reward. M. O. SEITZ, 4P168, Chicago

"A Boy with a Bicycle is Worth Two Boys"

THAT is what many parents have said after their boy began riding a speedy dependable Pope-made bicycle. And it's good common sense too. With a bicycle, a boy can run many more errands than two boys on foot possibly could, for the bicycle carries him 19 feet for every step taken by a boy on foot.

But a bicycle, to be worth having, must be a good one—one that will give a lifetime of service—like any of the world-famous

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Write for catalog by name.

Men and boys on farms the country over are enthusiastic about these wheels, because they know that every Pope-made bicycle will stand up under the hardest kind of service like a seasoned veteran.

Made and guaranteed by
Westfield Manufacturing Company
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77 Lozier Ave. Westfield, Mass.

work. After the application there should be no trouble in observing the dust particles adhering to the fruit

Experimental evidence shows that the following insects and diseases may be controlled by dusting: Codling moth, bud moth, leaf roller, green worm, gypsy moth, brown-tailed moth, apple scab, sooty blotch, asparagus rust, potato diseases, potato bugs, garden crop insects, cherry slug, pear slug, curculio, corn-ear worm, cabbage worm, cotton worm, tobacco worm and tent caterpillar. Altho experiments are now in progress which give great promise for the control of scale, aphis and psylla, no definite recommendation can be made at the present time. Many of the more difficult orchard problems, which have been only semi-successfully worked out by liquid spraying, are counted on by many experts to yet yield to the dust system.

VULCANIZING HINTS FOR TIRE REPAIRS

APPLYING SEMI-CURED-BANDS—First remove the old tread. If the breaker strip is loose, as in most cases it is, remove it and the cushion stock down to the fabrics. If it is solid it is not necessary to remove it.

By means of a wire buffing brush remove all small particles of cushion rubber from the fabric.

Wash the roughened surface and apply three coats of vulcanizing cement. The first and third should be light coats, the second 50 per cent heavier.

Allow the first to dry 20 minutes, the second 30 minutes, and the third from three to five hours.

The inside surface of the tread band should also be buffed and cemented like the case.

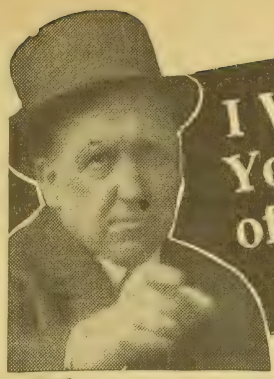
Next apply a strip of cushion stock 1-32-inch gauge; then the breaker strip. If the breaker and cushion stock were not removed this operation is unnecessary. However, a thin strip of cushion stock should be applied over the old cushion and breaker. Then apply a strip of tread gum 1-16-inch gauge, wide enough to cover the buffed surface.

Next place a piece of clean muslin over the case thus built up and place the band in position. After centering the band on the case, remove the muslin and roll down securely.

SECTIONAL REPAIRS—The peel-back method in sectional repairing is employed with entire success by a great many vulcanizers. It is economical for it saves the use of new tread stock; furthermore it permits making a repair that does not disfigure the tire.

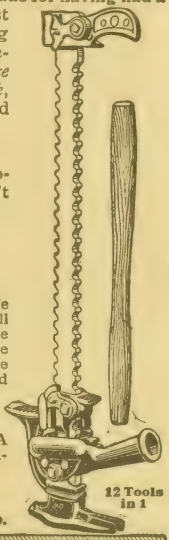
The first step in making a repair of this kind is to cut across the tire through the center of the blow-out and strip back the tread with the breaker strip for a sufficient distance on either side so as not to interfere with putting in the section. The ends may be kept out of the way by strapping them to the casing. After the section has been built in, thoroly clean and roughen the under side of the lifted ends of the tread. Apply three coats of cement, allowing the first two to dry thirty minutes each and the last three of four hours.

Then replace the tread and roll down thoroly. It may be necessary to fill in with tread stock at the point where the edges meet. Cure in the sectional mold in the usual way.



I Want to Tell You the Story of this Combination Tool

You can't see half its wonders by looking at it. That's why I want to send the tool to you. *Farmers, teamsters, auto drivers, mechanics, contractors* and *builders* are writing me letters every day expressing their gratitude for having had a chance to try this wonderful tool. "It is almost human," they say. It does almost everything—is a *single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter, alligator wrench,* and dozens of other things.



Send Your Name To Me

Let me make you my fair and square proposition for a trial of this tool. If it doesn't amaze you I don't want your money.

MEN—Here's Your Chance to Make Money

If you want to represent me and help me show men what this tool will do, I will give you a chance. I won't tell you here how much money some of my representatives are making every day. I am afraid you wouldn't believe me. When you see and try the tool you'll understand. I am building up a whole army of money makers all over America. It's the opportunity of a lifetime and if you have any free time you ought to find out about it. Just say, "I want to know about your representative proposition." A post card will do. Address me personally.

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This new Improved "Easy" self-heating flat-iron is right—nothing like it invented—nothing so simple—price low—sells quick—profit big—possibilities unlimited—guaranteed. Every woman buys—can't help it—saves her steps, time, trouble and fuel—pays for itself in a little while. This marvelous new invention—this wonderful flat-iron has a seamless tank—joints brazed—burns without odor—flat bottom burner, throws heat downward—no generating tube to clog—simple—easily cleaned. It's a business that makes you independent—gives you a local prestige and plenty of ready money. Write Quick for FREE Sample Offer.
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This paper reaches 375,000 readers the first of every month, all concentrated in Illinois.

Instructions for Bridge-Grafting

United States Department of Agriculture's Method of Saving Trees Girdled by Predaceous Animals

The important steps in bridge grafting are shown in figure 3. In preparing the wound to receive the grafts the injured parts should be thoroly cleansed, all dead tissue cut away, and, if possible, the cleansed surface should be sterilized by washing it with a solution of bichlorid of mercury, copper sulphate, or some other antiseptic. The irregular edges of the bark (fig. 3, A) at the upper and lower margins of the wound should be cut back evenly, as shown in figure 3, B.

The scions which form the bridge should be selected from wood of the previous season's growth. Either branches which grew the preceding season or water sprouts that are only a year old may be used.

It is important that the scions should be a little longer than the space that is to be bridged. This is in order that the middle portion of the scions when put in position shall arch slightly over the central part of the wound. This is illustrated in figure 3, D, where a longitudinal section of a bridge graft is shown.

Before being placed in position the scions are beveled at each end, both beveled surfaces being on the same side of the scion, as shown in figure 3, C. This beveling should be done with a long, sloping cut, so that the wedge-shaped ends thus formed will be relatively thin, to permit their being thrust well under the bark without danger of separating it unduly from the cambium at the points of insertion. Reference to figure 3, D, illustrates this feature. The placing of the scions in position is facilitated, if the bark at the margins of the wound is slit for a short distance at the points where the ends are to be inserted. (Fig. 3, E.)

The number of scions required for a bridge will depend largely upon the size of the trunk. No fixed rule can be given. The larger the number, the more nearly complete will be the restoration of the connection between the parts above and below the wound; but if placed too close together, the bark at the margins of the wound between the scions will be raised. The starting of the bark except at the immediate points of insertion of the scions must be avoided.

In placing the scions it is of the greatest importance that the cambium of the scions which is exposed in the sloping cuts at the ends be brought into intimate contact with the cambium that lies under the bark at the margins of the wounded area. The union of scion and tree can occur only where

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We gave him this New 1916 Overland Touring Car, fully equipped for collecting only $291.00 for us! So simple! So easy! Why be without one?

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The automobile that we sent to Mr. H. D. George, N. C., was a Brand New, 1916 Overland. It did not cost him a cent. We even paid the freight. Here's what he says in a letter to us:

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If you want an automobile, we offer you an opportunity that you should not overlook. Think of it! Mr. George was able to obtain this beautiful car for doing just a little favor for us now and then. Why not obtain this one that we are about to give away for even a less effort. Mind you, it does not cost you a penny! Not one cent! All we ask you to do is to join us and follow our instructions, devoting a little of your spare time to work that we wish you to do. It will not interfere with your regular duties, and we will pay you for your efforts. You have as good, if not a better chance to obtain this 1916 Overland. Don't say it is not possible! You may be just the fortunate one! The 1916 Overland Automobile that we will give away will be Brand New, Direct from the Factory, fully equipped with Electric Starter, Top, Windshield, Kit of Tools and everything that is necessary. The equipment is complete.

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Address—**Automobile Distributors, Dept. 725, Springfield, O.**

the cambium layers of the two come together. The scions may be secured in their proper positions, if need be, by driving a small nail through each end into the trunk. This will aid in drawing the cambium of scion and trunk closely together.

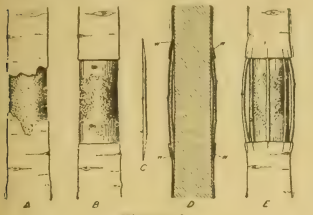

Figure 3

Details of bridge grafting: **A**, The trunk of a tree girdled by mice; **B**, the wound cleansed and the bark along the margins trimmed back to healthy, growing tissue; **C**, a scion with beveled ends ready for insertion; **D**, longitudinal section of the trunk with scion in place, showing their insertion under the bark of the trunk (w); **E**, scions in place ready for waxing.

The operation is completed by thoroughly covering the area occupied by the ends of the scions and the margins of the wound with grafting wax, strips of waxed cloth, or by some other means that will adequately prevent these parts from drying out. Some operators cover the entire wound, scions and all, with melted wax.

TIME LOST IN PLOWING GROUND FOR OATS AND CLEANING THE SEED

Does it pay to plow ground for oats and to clean the seed for this crop? These questions are answered by F. A. Welton, associate agronomist of Ohio Experiment Station, in the February Monthly Bulletin, in which he says that farmers are frequently misled by such practices. Six years' results at the Experiment Station show that disked land has given greater yields than plowed soil, and the cost of preparing the seed bed has been much less. The only objection to disking is on land where weeds are unusually abundant or on exceptionally heavy, clay soil.

Cleaning seed oats to remove all the small grains has likewise been unprofitable. Yields are increased so slightly by repeated cleaning of the oats in a fanning mill that Mr. Welton advises only the removal of dirt, broken straw and weed seeds in the grain.

EASY TO SEE

Brown—The boss says that when he was a boy on the farm they had a mule that was just like one of the family.

Jones—Yes, and I know which one.—From Judge.

∽o∽

If you are deaf you are unfortunate in not being able to enjoy necessary noise. But, fortunately, you do enjoy the unnecessary.

∽o∽

Nothing will break up a stiff joint like machinery. If, however, that fail, employ either boiling or freezing.

∽o∽

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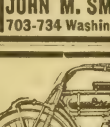

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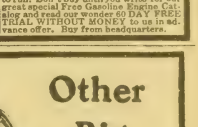

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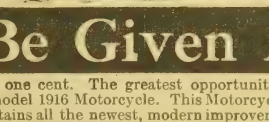

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A postal will do. Simply say "I want a Motorcycle"—or cut off the coupon below, sign your name and correct address and mail to us. Sending your name will not obligate you in any way for anything. We just want to send you our big free offer. If you want a Motorcycle free of charge, here's your chance, if you act quickly. No money required. No charges, or obligations. Nothing to buy. Do you want it? Then do this—

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Just send me your full name and address today and I will write you all about my simple and easy plan for securing this fine watch. You will wonder how I can give away such splendid time-keepers without any money, but I am going to make you a present of it.

Don't wait—don't delay, but send me your name and address at once.

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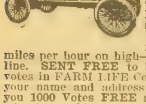

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combination of big catcher's mitt, fielder's glove, catcher's mask (extra strong and durable) and rubber center ball, big league style, or fine chest protector or complete suit, including shirt, pants, cap and belt, good quality, extra well sewed. Send name and we will send you 8 sets of our fine pictures to dispose of on special offer at 25 cents each. Send us the $2 you collect and for your trouble will send you outfit as described. Write today for pictures. Be in the game at once.
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Contest Winners

In the contest for the best set of answers to the five questions in the January number of FARM NEWS, the First Prize, $5.00, was awarded to R. M. Connell, Ohio. The Second Prize, $3.00, was awarded to Marvin N. Cross, Iowa. The remaining two prizes, $1.00 each, were awarded to Ruth Brown, New York, and Agnes Danielson, Minnesota.

In the February number of Farm News, the best set of answers to the set of questions was submitted by Lawrence Brown, Wisconsin. The Second Prize, $3.00, was awarded to Hallie Byers, Pennsylvania, and the other two, $1.00 each, were awarded to Graydon D. Cruse, North Carolina, and Walter McCullough, Kansas.

MOTHER KAT

David sat rocking his placid self on the extreme edge of the front porch, his slippered heels beating a lively accompaniment to his song. His hair was very tow and refused to follow the curve of his large head, and, as his mother frequently lamented, was decidedly wispy. But his round, dimpled face, hard, rosy cheeks and dancing blue eyes made every passerby call out to him. Even the teamsters, hauling coal and rock, had something to say to the little fat boy, singing so happily in the sun.

"Hey, kid, is that your cat," called out a dusky driver, and David turned quickly to see the largest tomcat sneaking along thru the grass. He gave one shriek "mama!" and drawing his chubby legs up, scrambled to his feet in a hurry, seeking safety behind the "squeen" door.

He had a right to be afraid, for David was a very little boy, and the cat was a very large cat, with cheeks that stuck out like the flanges on a wheel-barrow, and with eyes a fishy green.

Mother Kat saw him too, and promptly commenced to spit.

"Papa," cried David, "here's a dreat bid tat doin' to eat my kitty up." His father came, saw, and rendered immediate decision.

"He's after the baby kittens," and David's long-drawn "O-o-o-o" was full of dismay.

"Le's det 'em, Papa," and he and papa hied to the kitchen shed where the fluffy little kittens lay, all unconscious of their danger. They carried them to the house, and papa drove the big tom away, and, with Mother Kat beside them, planned a home for those kittens that should forever bar the old tom.

Papa took a cracker box, and with boards, nails and saws, partitioned it into two bedrooms, with an opening between. David was allowed to gather soft pieces of cloth and make beds in both these rooms, while papa constructed an awesome hallway, built especially for the emergency. It traveled in a straight line from the front door for a short distance, and then made an abrupt turn and went at right angles, so it formed a very sharp elbow.

Papa let Mother Kat smell around in the two bedrooms a little while before putting on the front of the house, and finally laid the three baby kittens safely in the bed room farthest from the hallway, after which he nailed on the front.

"There, David," he said, with some satisfaction, "I hardly think old tom will get those kitties. But we must give Mother Kat a few lessons."

Mother Kat sniffed about the opening to the strange hallway, but refused to enter, so papa gave her a gentle push, and in she went, only to back out hastily. He tried her again and again until finally she found her way into the farthest bedroom, and must have laid down beside her babies for she did not come out for a long time.

Papa and David sat very quietly and waited, for papa said her education was not quite complete. Finaly a scratching was heard, and pretty soon Mother Kat showed her three-cornered face at the outer door of her new home. Papa let her walk around in the grass a while and then commenced to bark like a dog. Mother Kat glanced wildly about for a minute and then darted into the cracker box.

Papa laughed. When she re-appeared he repeated the performance until he was satisfied she would run to the little house whenever she was frightened, and he knew she would be safe there.

"Now, sonny, those kittens are safe and so is Mother Kat, and we can just leave them out here in the shed kitchen without worrying."

David did not like the idea very well, but decided papa knew best, and that he would just watch out a little bit himself.

A few days later mother and David were surprised and frightened at the greatest uproar you most ever heard. Such cat language was never known before in that peaceful neighborhood, and the yells and cries and hisses were truly terrifying. Mother hastened to the back porch, followed by David. What they saw made them both hold their breaths for a minute. The big old tom had crowded himself into that small hallway until only his hind quarters were visible. Evidently a pitched battle was in progress, and Mother Kat was at home attending to her share of it.

"O, David, do you see?" called mama, "he's trying to get out and can't. I do believe he is stuck."

"Belieb he's stuck," chanted David joyfully.

The yells and cries continued and poor, squirming tom's hind legs bore mute testimony to Mother Kat's ability to defend her young. Finally he succeeded in breaking loose, and mama almost felt sorry for him. The fur was worn off his immense, square jaws, where he had fretted against the turn in that elbow; his face was scratched

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Words and music for 4 voices.
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and bitten and his eyes were wild. He had wedged his head into the hallway as far as the turn when Mother Kat evidently had flown at him, an animated ball of fury. When he had tried to back out, his jaws refused to go back the way they came, and all his twisting and turning failed to help him much. So Mother Kat was able to give him a lesson he did not forget very soon. In any event he was never seen around that place any more.

BEARCAT DISTINGUISHES HIMSELF

"My least boy, Bearcat, showed off some at the cantata in the school house tuther night," related Mrs. Gap Johnson of Rumpus Ridge, Ark. "'Mongst other things they perpetrated a tableau called 'Empty is the Cradle; Baby's Gone!' They had a cradle on the platform, and Bearcat, all trimmed up in a white robe with wings on the back, was lying in it, with a belt around his waist under the gown and a wire running over a hook in the ceiling and out thru a hole in the winder pane. The Glee Club was going to get off the song, and at the proper moment a bunch of boys outside would pull the wire and haul Bearcat up'ards, perdoocin', it was estimated, a solemn and moving spectacle.

"But they wanted to have the tableau along towards the last, and as the platform was small and they didn't have any scenery they put Bearcat in the cradle and set 'em back of the teacher's desk before the crowd came. He is only four years old and hacher'l enough he fell asleep, and when the Glee Club turned loose it didn't wake him. The first thing he knew he was climbing heaven-ward out of a dream with something pulling at him. Forgetting where he was he gave a yell and grabbed the cradle. Up they went, Bearcat, cradle and all. The load was heavier than the boys outside expected, and they buckled to it right ably. So when the kid dropped the cradle about three-quarters of the way up, the reaction caused the boys to yank him against the ceiling with a fury that like to have busted the poor little feller's crust. You never heard such cussing out of a four-year-old in all your life! Altho he's my boy, I had no idee he was half so fluent!"—Tom P. Morgan, in Judge.

Mr. Richards had always worn a full beard since his marriage, and recently decided to have it taken off. One evening, he came home to dinner with his face clean shaven.

"Come, darling," he said, to his little five-year-old daughter, "and kiss father."

"Are you my father?" queried the child, looking anxiously up at the man, in evident bewilderment.

"Why, of course I am," replied Mr. Richards, considerably amused.

"Then," insisted the little girl, "whose head has you got on?"

The street-car conductor came around the second time to Mr. Dexter.

"Did I get your fare?" demanded the conductor, in a gruff voice.

"I gave it to you," replied Dexter, "but I don't know whether you or the company got it."

Mother—Geraldine's teacher says she is on the merit roll again.

Grandmother—She's her father's girl, bless her! Hiram always did the most meretricious work!

One proof of our ancestry is the tendency to "ape" others.

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BOYS! We give choice of four Guns (on 4 Easy Plans) for selling our New "Healene"—The Salve that Heals—at 25 cents a box. WE TRUST YOU. Order 6 boxes Magic Healing "Healene" today, we send promptly. Easy to sell because it is a necessity in every home. When sold, send us our $1.50 and select your Gun, according to one of the four plans, as you are entitled, in our big list. Extra Gift—just for promptness, so order today.

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Solve This Picture

See Our Big Prize Offer Below

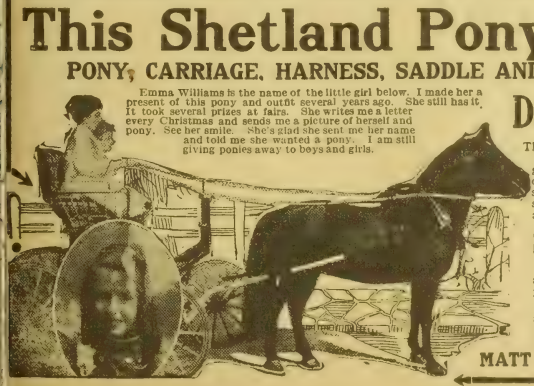
A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free. If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)

This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY

Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.



Do You Want This Pony?

The next pony I am going to give away is a beauty—jet black, about 42 inches high, perfectly sound, plump, well trained, kind, and as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one. If you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S15, Springfield, Ohio

FREE AUTO For Boys and Girls

Built just like a Big $2,000 Racing Car

Regular 5 horse-power gasoline engine

Runs 60 miles on a gallon of gasoline at a speed up to 25 miles per hour on high gear.

20-inch Latest Model Wire Racing Wheels. Three Speeds Forward —Low, Medium and High.

No Money Required—Write Today and We'll Tell You How to Get It FREE

Given Free

The Culver Racer is a "real-for-sure" automobile especially built and designed for boys and girls. It is up-to-the-minute in design and of the very highest quality of workmanship. Its ball-bearing wire wheels are the very latest in motor car construction, having Culver non-skid, 20x2 clincher tires with inner tubes. It has a regular foot-pedal clutch; a capacity of two gallons of gasoline, enough to go 120 miles without refilling. The Culver Racer has a 36-inch tread and a wheel base of 63 inches; springs are the latest cantilever type; shaft drive transmission. The machine has three speeds forward, low, medium and high, and two speeds reverse.

The 5 horse-power engine is air cooled and specially designed; brakes are very substantial, externally contracting 5-inch Raybestos; battery or set spark ignition with a high grade magneto. Its weight is 250 pounds ready for the road and is capable of making a speed up to 25 miles per hour on high gear. The tool box is built into the rear of the car which contains a pump and complete kit of tools. The upholstering is of leather design seat and back—the finish is a pretty, brilliant racing blue with black trimmings.

All the boys and girls will envy you when they see you riding down Main Street at a merry gait in the Culver Racer that I gave you. If you could see this splendid automobile and go spinning down the street alongside the big cars, I am sure you would not delay in mailing the coupon which gives you 2,000 free votes toward winning this auto.

Write At Once—Quick

This is your chance to own a regular automobile—not only that, but I will give you dozens of other beautiful and useful presents that all boys and girls want—just the kind of presents that you have often wished for. You can't help winning if you mail the coupon now and get started at once and do as I say. You will be surprised at how easily you can get the very thing your heart desires.

Don't let anyone tell you that you can't win this dandy Culver Racer. You can win if you will act promptly and mail the coupon at once. Don't lay down this magazine until you have clipped out and mailed the coupon. By doing this you will get 2,000 Free Votes toward winning the Culver Racer which is a good start—then, I will tell you how you can get several thousand more votes and many handsome presents for a very little effort.

Mail the coupon today.

T. Jarvis, The Auto Man
Dept. 200 Springfield, Ohio

Good for 2,000 Free Votes

T. JARVIS, Dept. 200, The Auto Man, Springfield, Ohio

Dear Sir:—Please credit me with 2,000 votes toward winning the dandy Culver Racer as described and tell me how I can earn more votes and the fine prizes you are giving away.

Name .....

Post Office .....

State .....

Street or R. F. D. .....

Box No. .....

Farming Industries of Wisconsin

(Continued from Page 5)

picnic held during a period of slack work, often right after the grain harvest, is a medium for strengthening the bonds of neighborly friendship. Such affairs can be made of educational value by having prominent farmers or agricultural authorities deliver practical addresses on subjects of local interest. For example say the picnic is held in a dairy region. It will be a simple matter to get some dairy expert to be present at the gathering. Even a good specimen of the dairy cow or a pure-bred hog, sheep or horse could be used for demonstration purposes. The dairy expert might talk on the form of the ideal dairy animal, and with the cow at hand, he could illustrate the score-card points of the animal.

Demonstration meetings are also of inestimable importance in the practical education of the farmer. The farmer of the "get-together" type will attend. It is best to hold the meeting on the farm where the experiment with the grain or grass has been tried. It may be possible to compare the result with the outcome obtained by Neighbor Jones who has produced a similar crop according to the ordinary cut-and-dried method. Where the demonstration meeting is made a basket affair, to which the farm wives bring a hamper of goodies for the noon lunch, the social value of the meeting is emphasized.

To suggest definite ways for farmers in different regions to get together is impossible. That is a problem for the individual group to settle. There is room for common-sense co-operation in every farming community. Common sense must govern the operations. And where common sense and practical experience are used in the right proportion the results will be gratifying, both from a financial and social standpoint. We are told that "in union there is strength," that "two heads are better than one," that "it pays to combine and advertise." However, in testing out the practical application of these phrases, we must be careful not to imitate the wild beasts of the desert, who would rather tear one another to pieces than to unite and battle against some common enemy.

DOES EDUCATION FOR THE FARMER PAY?

The place of high school education in the farming business is discussed by O. R. Johnson of the Missouri College of Agriculture, who says:

"The better-educated farmers keep about one and one-sixth times as much stock as the others, as is shown by the number of acres of crops grown for each animal unit kept," says Mr. Johnson. "The man with more school training also handles more crops with each workman he employs. Each workman on farms of the first group of farms handles 53.5 acres of crops, while a workman in the second group of farms handles 61.2 acres. In other words, the better-educated man is doing about one and one-fifth times as much as the man with less school training.

"There are several points which the data bring out. The one of greatest in-

terest, perhaps, is that the better-educated farmer is making an income 71.4 per cent greater than the man with less education. After the labor income of the man with less school training is adjusted to allow for difference in size of business, the man with more education still has about 40 per cent greater income than the man of the first group. The other factors indicate strongly that the better-educated man has his business better organized. The fact that he gets slightly better yields and has a system which furnishes him more productive labor, and that he keeps more live stock, seem to show that he has somewhat greater ability in the organization and handling of his business. Because of this fact, it is found that he makes enough larger labor income to pay interest on approximately $5,500 capital, and allowing for the difference in size of business he still makes enough larger income to pay interest on $3,700.

"Other studies have shown that with this size of farm each acre that the farm is increased will add approximately $2 to the labor income, but that the investment per acre on the two farms is not enough different to make any difference in the income in favor of the better-educated man. Also, the difference in crop yields is not great enough to change the labor income materially. With these facts considered, it would appear as though the man who has received more mental training has increased his efficiency thereby to the extent of making interest on a capital of at least $3,700. This does not seem to be a bad investment for the small amount of time he spends in getting the additional training and the probable expense of obtaining this training. While other factors may have played some part in his greater earning capacity, yet from a careful study of the organization of his business, it appears that education must have played a very large part in his greater earning ability."

"What I can't git through me," says Farmer Hornyhand, "is how these here dressmakers gits their idees. F'r instance, I seen a woman on th' street that looked 's if they was n't nobody in her clothes at tall, an' my married darter which is a city dressmaker woman said th' dress wuz 'too full,' when it looked t' me's if it was gosh-dinged nigh empty. An' aft'wards I seen one 'at looked 's if y' could n't 'a' squeezed a cambric needle in beside er, an' my darter said ''twasn't full enough,' when it looked 't me's if 't would bust if they tried t' fill it any fuller, by heck!"

—Lippincott's.

Billson yonder tells me he trusts his wife implicitly and absolutely, but"—

"Well?"

"Well, I notice he carries his change and his fishhooks loose in the same pocket."—Judge

FOOT AND MOUTH DISEASE

A valuable book is being given away by E. J. Reefer, The Expert, 9564 Veterinary Bldg., Kansas City, Mo., that contains vital facts concerning the Foot and Mouth Disease, its prevention, its cure and its symptoms.

Every farmer and stock-raiser in America should have this book. You can get it free and postpaid if you send your name and address to Mr. Reefer.

8 Fine, Hardy Rose Plants Free

To introduce our popular home magazine, THE PEOPLE'S HOME JOURNAL, into thousands of homes where it is not already taken, we offer for a limited period only, **absolutely free** for a year's subscription at 50 cents (the regular price), a Set of Eight Fine, Everblooming Tea and Hardy Roses, all choice varieties, as follows;

1 THE BRIDE. A mammoth, ever-blooming Cream-White Tea Rose, of exquisite form and texture. A strong, healthy grower, and a constant bloomer. One of the largest white roses known, the flowers being very double; can be cut with long stems.

1 CHAMPION OF THE WORLD. A hardy ever-blooming Rose, producing flowers in abundance of a rich, glossy pink color, and delightfully fragrant. A strong, vigorous grower.

1 MRS. DUDLEY CROSS. A pale, soft, rosy-yellow Rose, an exquisite color, with blooms of beautifully rounded form held on good stems. A splendid bedding variety.

1 WELLESLEY. The beautiful Pink Rose, the outside of the petals being bright and clear, with a silvery reverse. A very vigorous, healthy grower, free bloomer, and clothed with heavy dark green foliage.

1 WHITE DOROTHY PERKINS. A new climber, a pure white sport of the well-known Dorothy Perkins, with the same habit of growth and freedom of flowering. A splendid companion for the pink variety as it blooms at the same time.

1 YELLOW MAMAN COCHET. An unusually hardy, pure Tea Rose. A sturdy, clean grower, with stiff stems and luxuriant bloom. Flowers are large, perfectly double and shapely, of a rich sulphur-yellow color.

1 QUEEN OF BEDDERS. This is, without doubt, the best of the red Roses for bedding. It can be planted anywhere, being entirely hardy. The flowers are large, and of a fiery scarlet.

1 RED DOROTHY PERKINS. This is an improved Crimson Rambler. The flowers are large and double, thirty to forty on a stem, the color being an intense crimson-maroon, tipped with scarlet. A fine climber.

The eight rose plants described above are grown by one of the largest and most reputable rose growers in the United States. They are not cheap, common roses, but well-known standard varieties. We send strong, healthy, well-rooted, 1-year-old plants, warranted true to name and color. They are carefully protected in the packing, and are shipped, prepaid, from the greenhouses where they are grown, directly to our subscribers, thus receiving but one handling, and are guaranteed to reach their destination in good order.

THE PEOPLE'S HOME JOURNAL

has been published for over thirty years, and goes regularly every month into over nine hundred thousand homes, where it has reached the very hearts of its readers. Its widespread popularity is no accident—it is the natural outcome of a policy consistently adhered to from its very beginning over a third of a century ago. The publishers believe, and the success of the magazine has proven it, that the great majority of people read magazines for **both** pleasure and profit. In other words, while THE PEOPLE'S HOME JOURNAL maintains a number of excellent departments for the housewife, each conducted by an expert in her line, the publishers believe that for the greater part of her reading the busy housewife wants to get away from the practical side of life with its, ofttimes, perplexing problems that demand her care and attention for ten to twelve hours of the day, and wants recreation, entertainment, inspiration for mind and body—wants to read bright, cheerful, optimistic, wholesome, refreshing stories and articles dealing with the emotions of life. Such is THE PEOPLE'S HOME JOURNAL, edited for all members of the family—in fact, it is a member of the family in over 900,000 homes—conceded to be the most indispensable publication in the magazine field today, catering to the tastes and needs of every American household.

OUR SPECIAL OFFER— To any one who will send us 50 cents in payment for a subscription to THE PEOPLE'S HOME JOURNAL before May 31st, we will send the Magazine for one year, and in addition will send **free** the full Set of Eight Fine Rose Plants above described, both fully prepaid.

Our offer is remarkably liberal, and every one who is fond of flowers should take advantage of this unusual opportunity to secure a fine collection of choice rose plants absolutely without cost. Address all orders:

F. M. LUPTON, Publisher (Dept. A), 76 to 88 Lafayette Street, New York City

Post Card Camera FREE

Takes and Makes Finished Pictures Instantly

Push the button, drop card in developer and in one minute you have a complete finished picture on a post card, size 2½x5½ inches. Can take any picture you want of landscapes, water scenes, people, etc., the same as with ordinary camera; but no expense for films or plates, printing, developing, etc. Most wonderful discovery of the age. Results amazing. Take pictures for your own amusemert on profit. Everbody wants their photo on a pose card. Big money maker.

SEND NO MONEY—JUST YOUR NAME and we will send you 20 of our New Art Pictures to dispose of on our special 25c offer. Send us the $5 you collect and for your trouble we will send you free, this Marvelous Post Card Camera just as described and full outfit for taking pictures at once. We guarantee satisfaction. Write today.

M. O. SEITZ, Dept. 4C43, Chicago

GOLDEN MORTGAGE-LIFTER CORN

No corn has given better satisfaction or yielded better grain. Has gained great favor among corn growers everywhere. The large amount of corn produced on so small a cob surprises everyone. This corn is **the corn to grow for profit. It is near all corn. Early. Prolific.** Strong, stiff stalks and stands up well. Outyields any other early corn. Has the **smallest cob** of any large grain. Rich in oil. Will fatten faster than any grain grown. Suits the grain dealer and tops the market. Takes first prize wherever shown. Best 100-day corn in existence. Its broad, closely-set leaves make it a valuable ensilage and fodder corn. It will suit the corn growers. We want every farmer to plant this wonderful corn. It husks so easily there will be no sprained wrists. Yields 70 to 100 bu. per acre. Others ask $3.50 per bu.; we ask only $3.00 per bu. and furnish sack free. Corn is carefully selected, nubbed, tipped, shelled, graded and ready for planting.

A. D. HACK & BRO.

Dept. 1. New Canton, Ill.

30 DAYS FREE TRIAL

Total cost only **$7.50** by Our **7 MONTHS TIME** Purchase Plan

to prove to you that this magnificent Royal has the Sweetest, Purest, Loudest and Clearest tone—**to prove to you** that it is as large and handsome as the trust machines that sell at $25.00—**to prove to you** that it has the strongest motor, the best reproducer and tone arm and the most ingenious devices to start, stop and control the music. Shipped with a supply of 10-inch double disc records of your selection, so you can enjoy the finest entertainments for one whole month. Return the outfit **AT OUR EXPENSE** if for any reason you do not wish to keep it. Drop a postal for our big list of unsolicited testimonials, record book and other literature. They are free.

S. H. DAVIS, 48-D 6101 May St., CHICAGO

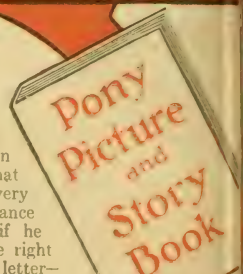
HAIR REMOVED from face, neck and arms without the use of a razor or electric needle. Satisfaction guaranteed. $1 box 50c, Sample 1

CAROLINE GRAY, Dept. 16, 141 W. Ohio St., Chicago

Who Wants a Pony?

I AM THE PONY KING OF AMERICA.

I have given away 364 Ponies to children. Now, I am going to give away more Ponies—some of the finest Shetland Ponies I could pick out. **I want every family that reads this paper** to stand an equal chance. If you are a Boy or Girl, send your name. **If you are the Father or Mother** of a Boy or Girl, send in your child's name. I will enter the name in my Big Free-for-All Pony Club—that starts right away. Remember, every child has the same good chance to get a Pony and Outfit if he will only send me his name right away. You need not write a letter—just fill out the coupon below.



Little Flossie Meredith, Jasper Co., Iowa, sent in her name and we gave her a beautiful pony named "PAT" Now she has fun all the time

Pony Book Sent Free

MY BIG, NEW PONY PICTURE AND STORY BOOK is free to every child who sends in his or her name. It is the most wonderful Book you ever read. It tells you all about how to handle and train Ponies. It tells you all about the hundreds of Ponies I have Given Away—gives the names of the boys and girls who got them, and what they are doing with their Ponies. It tells you how to get a real live Pony for yourself.

Parents—Don't miss this one chance to get this Free Pony Book. Children love to read it. Besides, your child may be one of the lucky winners and get one of the Ponies.

Children—Write your name and address in the corner below to the left, cut it out, and mail it to me. I will surely send you the Free Pony Book, and maybe you will get one of the Ponies, also. Send your letter to

The Pony King
552 East 10th St. St. Paul, Minn.

Free Pony Book Coupon

THE PONY KING
552 E. 10th St., St. Paul, Minn

Please send me the **Free Pony Picture Book** and enter my name in your **Pony Club** so I will have the same chance I want one of the ponies you are giving away.

My name is .....

P. O. .....

State ..... R. F. D. .....

Sign Your Name
Tear It Off
Do It Now

AS

COLLEGE OF AGRICULTURE
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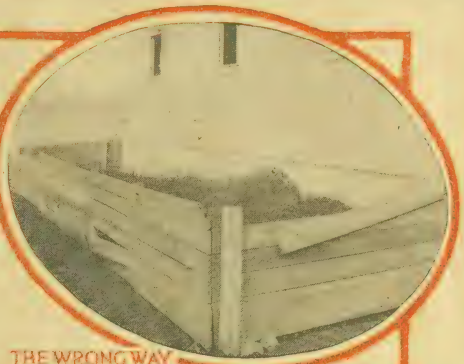
FARM NEWS

Springfield, Ohio May, 1916

THE RIGHT WAY



THE WRONG WAY

The Immense Waste of Farm Manure Due to Indifferent Care Causes Our Farmers to Lose Millions of Dollars Annually

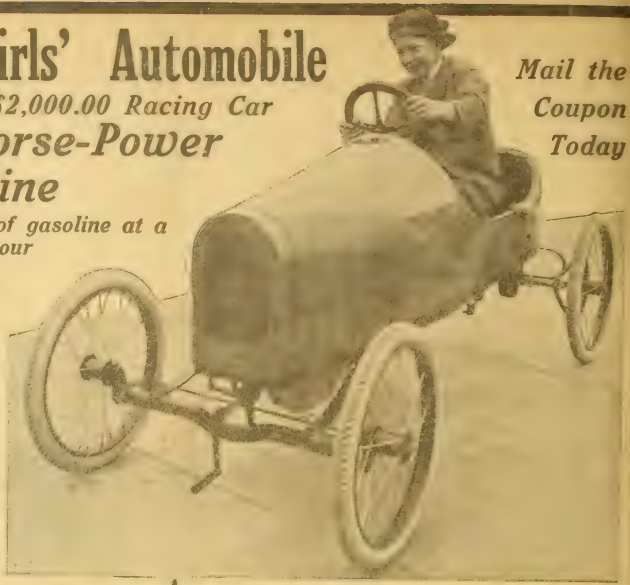
Boys' and Girls' Automobile

Built Like a Big $2,000.00 Racing Car

Regular 5 Horse-Power Gasoline Engine

Runs 60 miles on a gallon of gasoline at a speed up to 25 miles per hour

Mail the Coupon Today



Given FREE

The Culver Racer is a "real-for-sure" automobile especially built and designed for boys and girls. It is the only gasoline propelled, motor driven automobile ever made for boys and girls. It is up-to-the-minute in design—the best motor car that good material and skilled workmen can produce. It's ball bearing, 20-inch wire wheels are the same kind that are used on the highest price cars.

The tires are Culver, Non-Skid, 20x2 clinches tires with inner tubes. The size of the Culver Racer is 3 feet wide and 6 feet long—a wheel base of 63 inches. It has a regular foot-pedal clutch; latest cantilever type springs; shaft drive transmission. The gasoline tank has a capacity of two gallons, enough to run 120 miles without refilling.

You Can Win If You Try

The machine has three speeds forward, two reverse; engine is 5 horse-power, air cooled and especially designed; brakes are very substantial, external contracting, 5-inch Raybestos; battery or set spark ignition with a high-grade magneto. The automobile weighs 250 pounds ready for the road and it easily makes a speed up to 25 miles per hour. The tool box, which is thoroughly equipped, is built into the rear of the car. The upholstering is of leather design, seat and back—the finish is a pretty, brilliant racing blue with black trimmings.

Can't you picture now the envy of all your boy and girl friends when they see you spinning down the street in the Culver Racer I give you? Just think how astonished they will be when you tell them how easy you won it.

The Culver Racer is going to be given away ABSOLUTELY FREE—**it will not cost you or your parents one cent.** The boy or girl who gets the most votes in my contest will be given the $300.00 Culver Racer described above. I am mighty proud of my boy and girl friends all over the country and I am always anxious to give them nice presents—that is my way of showing appreciation for small favors they do for me.

Don't let anyone tell you that you can't win this fine Culver Racer **you can win** if you try, and there is no reason in the world why you shouldn't win, if you will act quick and mail coupon now.

Good For 2,000 Votes

T. Jarvis, The Auto Man
Dept. 401, Springfield, Ohio

Dear Sir:—Please credit me with 2,000 votes toward winning the dandy Culver Racer as described and tell me how I can earn more votes and the fine prizes you are giving away.

Name.....

Post Office.....

State.....

St or R. F. D. .....

Box No.....

Write Me Quick

If you could see this splendid little automobile—if you could crank it up and go riding down the street alongside the big cars that cost their owners a lot of money, I am sure you would not delay one minute in mailing the coupon to me right away. For doing this I will give you 2,000 votes toward winning the Culver Racer.

I am going to give this dandy little automobile to the person who writes and tells we he is willing to make a little effort to get it. The car will be sent to the winner direct from the factory—**a brand new car.**

My plan is so easy and simple that you can't keep from winning if you will mail the coupon to me immediately.

Other Fine Prizes

Not only is this a golden opportunity to win this handsome automobile, but I will give you dozens of other fine prizes—just the kind of presents you have often wished for—watches, rifles, base-ball outfits, and many other premiums too numerous to mention. You will really be surprised at how easily you can get almost anything your heart desires.

Hurry—write me at once and I will answer your letter right away and give you 2,000 votes toward winning the Culver Racer. Then I will tell you how you can get several thousand more votes and dozens of beautiful prizes.

Mail the coupon today without fail. Write me before you lay down this magazine.

T. Jarvis, The Auto Man
Dept. 401
Springfield, Ohio

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

FARM NEWS

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Entered at the Springfield, Ohio, Post Office as Second Class Mail Matter

The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI **MAY 1916** **Number 5**

DID YOU TEST YOUR SEED CORN?

There Is Still Time In Late Planting Sections For This Test

CORN will be planted in many localities this month before FARM NEWS reaches all of its readers, and we sincerely hope that the majority of them took the advice we gave to test the seed corn. But there are some localities where there is still a little time to do this most important task before putting in the corn crop.

There were conditions affecting the corn crop last year which makes it absolutely imperative for every farmer to make this test. It will afford him an opportunity to save himself a large loss of labor by being sure of the quantity of seed he will have at his disposal, and thereby govern his planting. With the great number of catch crops which will provide forage and winter feed for stock, there should not be an acre of idle land in the Cornbelt. And, we are sure that you will need it.

Choose the catch crop best suited to your conditions, and then make the best use possible of your idle land, either thru insufficient seed or crop failure. There will be many fields of wheat which will not be worth harvesting this year. There is another opportunity. If this country is to become the storehouse for the world's supply of foodstuffs, every available acre will have to be made productive.

MAKING FULL USE OF THE AUTO

Peculiar, but the past winter has shown in greater degree than ever before that to get the most good out of an automobile it should be used the year round. With roads anywhere near good shape, the same advantages from the business standpoint which make the auto worth having, hold in the winter as in the more open seasons. A short, quick trip to town for repairs or better markets is more apt to be taken advantage of in winter, it made more enjoyable by the use of the automobile.

Now as the open, busy season approaches, the question confronting farm motorists is the increased price of gasoline. We may say in the start that the higher price of fuel for motors is no reason for keeping the machine idle. It is an investment, and the cost of keeping it going is only a small per cent of the original cost. In other words, the cost of operating our machines in comparison to the saving made in time during a busy season is not high. As I see it, there is no other business in which we can combine the use of the automobile in business and pleasure to quite such good advantage as in farming. So the fact that gasoline is somewhat higher should not cause us to "lay up" the auto until fuel comes down. We will defeat ourselves by doing that.

COMMUNITY BREEDING

Wisconsin is the state that probably gives us the best example of the advantages of community breeding. Results obtained in that state are remarkable when we think of the relatively short time community breeding has been given attention by the farmers there. The idea of community breeding is to have all the cattle, for example, of a herd and a large number, if not all, of the herds in a given community of one distinct type and breed.

When the people of a rural community work together agreeably thru any kind of a definite organization, it forms a very important sub-division. As we ponder over it, livestock breeding, as confined to a few, is rather an expensive proposition. The number of times which a single individual can bring high-class foundation stock into a neighborhood is not many, principally because of the high price of purebred sires. On the other hand, when the breeders of a certain definite area cooperate in the purchase and use of high-grade foundation stock, the building up of herds and flocks can be accomplished with much more rapidity.

Waukesha county, Wisconsin, serves as an excellent example of the great benefits resulting from community breeding. The first organization for this purpose was started in that county in 1906, with only twelve members. The men in that county started with the correct idea of the workings of such an organization, entering upon the work with enthusiasm and courage to improve and increase their stocks of high-grade Guernsey cattle. In 1911, just five years after starting, Waukesha county had about 1500 high-grade Guernsey cattle, which was 42 per cent of the Guernsey cattle. In 1911, just five per cent of all the Guernsey cattle in the United States. This resulted in Waukesha county being called "The Guernsey Capital of America." More interesting, tho, was the fact that the men who started the community-breed association were the owners of many of these cattle, and they were making money at a greater rate than they had ever known before, when the old system of individual breeding was in vogue.

Breeders from all parts of the country now turn to this county for Guernsey cattle for breeding purposes. The association members have not only cooperated in building up their herds, but they have cooperated in well-organized sales and advertising campaigns. So the future for such organizations looks bright. What the Waukesha association has done others are doing, and more can do. At the present time there are 51 Holstein-Friesian, 37 Guernsey, 20 Jersey, two Shorthorn, ten Draft horse, two Swine breeders and 14 general livestock-breeders associations in Wisconsin, all formed with the purpose of producing "more and better livestock."

FARM COST SYSTEMS

Whenever a farmer begins to investigate the cost of producing his crops, then we may be sure that there is going to be an addition to the market for up-to-date implements and appliances for doing some branch of farm work. There is absolutely no value in a crop of wheat until it is seeded, harvested and threshed. Every bit of value, from the very first move is labor cost.

And so it runs with all farm crops. The nub to the whole situation lies in reducing the labor cost. This can be done only by familiarizing oneself with a cost system which will reveal things in their true light. In this day, when the wages of labor is high, not only on the farm, but in the factory in many instances, and hard to secure, it behooves every farmer who wants to see the balance in his favor to watch this item.

A man who will plant a lot of "bum" seed-corn in a field which it has taken him days to prepare needs a guardian.

Mutton and Wool

Cornbelt Farmers Must Soon Realize the Money-Making Possibilities of the Purebred Flock

By Lester J. Meredith

NOT until Cornbelt farmers come to an understanding that sheep husbandry is adapted to the farm where good methods of soil tillage and crop growing are practiced, will they be able to develop profitable and efficient systems of flock handling on their farms. The common belief that sheep are primarily adapted to cheap grazing lands is the outgrowth of conditions at the time when sheep were used to clean up the undergrowth, and to convert the scant vegetation into wool as a source of profit.

In those days very little attention was devoted to mutton production, except to fatten and slaughter a few wether lambs for family consumption. Even to this day, among a large number of farmers, sheep are looked upon as animals especially adapted to grazing poor, unproductive land, and on many farms they are kept principally as weed destroyers, and to utilize the odds and ends of roughage and pasture crops produced on the farm.

During recent years, however, a change has taken place in the demands of the markets for choice grades of mutton. The higher prices prevailing for meat products of all kinds has given the sheep industry a more promising outlook as a general meat-producing branch of farming. The sheep is no longer regarded as an animal adapted only to cheap lands, for practical stockmen find that both wool and mutton can be produced more economically on the most productive land. In England, where the problem of handling sheep on high-priced land has been worked out successfully, it has been found that more rapid and profitable gain can be produced from crops grown upon cultivated lands than from grasses alone. This, above all others, is the factor that brings favorable prospects to the sheep industry in the Cornbelt states.

Sheep are capable of consuming and turning into profit every kind of farm grain and roughage grown on Cornbelt farms. Corn, which is a staple crop thruout this part of the country, is wonderfully well adapted to mutton-making, either in the grain, shredded stover or silage condition. Oats, and oats and peas mixed, and cut for fodder, are an excellent feed for sheep. In fact all of our grains can be profitably converted into mutton. Most of the grain fed my sheep is home-grown, and, with the possible exception of two or three years, I have not seen a time that I could dispose of my roughage to better advantage than feeding it to sheep. When farm roughage is fed to sheep one can rest easy, because he knows that the animals will give back to the land a large amount of valuable fertility.

In addition to the regular pasture and field crops raised on the average farm, there is a wide list of supplemental forage crops adapted to the soil and climate of the country that can be profitably grown for sheep pasture. Some of these forage crops possess a higher feeding value and are more valuable than native grasses and ordinary field crops. Such crops as

Grand Champion Cheviot Ram Ohio, Indiana, 1915

rape, cowpeas, oats and peas, rye and soybeans, are all well adapted to the average Cornbelt farm, and, when utilized along with native grasses and field crops, produce the highest quality of wool and mutton. Many of these crops have an additional advantage in that they can be sown as catch or secondary crops, and used for grazing after the main crops are harvested.

Our Cornbelt farms are naturally adapted to the production of forage growth, and it is better for the land, to say nothing of the resulting profits, to keep it covered by a growing crop than it is to allow it to remain bare in the seasons when it is not supporting an ordinary field crop. More permanent pastures could be profitably sustained, and larger crops produced on the cultivated area, by giving more attention to growing soil-building crops and maintaining more acres of grazing lands. With a given area of productive land the sheep farmer, thru the growing of forage crops, can sustain more stock on his farm to convert his field crops into finished products, and in this way gradually build up the fertility of his land.

The place that sheep can occupy, and the number of animals that can profitably be maintained upon Cornbelt farms, will depend on the nature of the soil, the other branches of stock feeding pursued, as well as the ability of the owner to handle a large flock to a good advantage. If the soil is well drained, and naturally adapted to the ordinary grain and forage crops and native grasses, the skill of the owner will be the limiting factor in determining how many sheep may profitably be kept on the farm.

There are many grain farms thruout the Cornbelt states that are following no particular line of stock husbandry. On such farms sheep may occupy a prominent place in the management of the farm. The grain farmer who might fail entirely with dairy cattle, or who lacks the capital necessary to invest in a herd of beef cattle, might take up the sheep business and make it a success. To begin in dairying or feeding beef cattle requires quite a large working capital.

With sheep one can begin in a moderate way with a small flock of breeding ewes and a choice ram at a very low cost. By starting in a small way, he can within a few years breed and raise enough animals to bring his flock up to the size that may be maintained profitably on his farm. The fact that he will have wool to sell will give him a chance to secure some income from his flock outside of the male lambs. By keeping the best ewe lambs and using them for breeding purposes, he will, within several years, have his farm well stocked with animals that are capable of returning as much profit from his grain and forage crops as any kind of stock that he could keep.

The thoughtful sheep farmer will make plans to secure his cheapest gains in flesh condition at a time when nature provides the widest variety of feed crops that are adapted for sheep feeding. This time is during the summer and fall months.

(Continued on page 30)

Thrifty flock on bluegrass pasture on a Cornbelt farm

For Relief Duty

Soybeans a Great Crop---One of the Newer Crops Fast Finding Favor Among Farmers

By George B. Crane

SOYBEANS are newcomers. Like other new things, we have to be convinced about their good qualities. We want to feel them out, so to speak, by growing only a small acreage at first, and we watch with interest the experience of others in growing them.

Altho first introduced into this country about 25 years ago, soybeans are already making a good record for themselves on the farms of the middle-western states. They are making good, and this is the reason why; soybeans are adapted to a wide range of soil and climate; they fit in admirably in seasons when another crop may fail; they are nitrogen-gatherers; they have a high feeding value; they are rapid growers; and at the present, the price at which soybean seed can be sold is high, because of the comparatively small acreage and the rapidly growing popularity of the crop. These, we believe, make up a list of pretty good recommendations for a new crop.

The acreage of soybeans that is being planted each year is growing. No wonder when we figure that they can be used for a catch crop, that they can be cut at a certain stage for hay, if we need it, that they can be put into the silo with corn to advantage, or that they can be left to mature, cut for seed, which can be sold for a good market price. Soybeans are also pastured some, altho they are not so good as rape for this purpose. They also fit well in a rotation, such as corn, soybeans, wheat and clover.

Another apparent advantage about growing soybeans is their ability to adapt themselves to varying conditions of soil and climate. Being a fast grower, and standing the heat of summer well, they can be planted in case of the failure of some spring crop, such as corn or oats. When planted in rich soil, they produce an abundance of forage; when planted on poorer soils, they produce seed well. Good drainage is an advantage, but they prosper on quite wet soil. When planted on good corn land, no fertilization is necessary. On poor soils a dressing of manure or fertilizers should be applied.

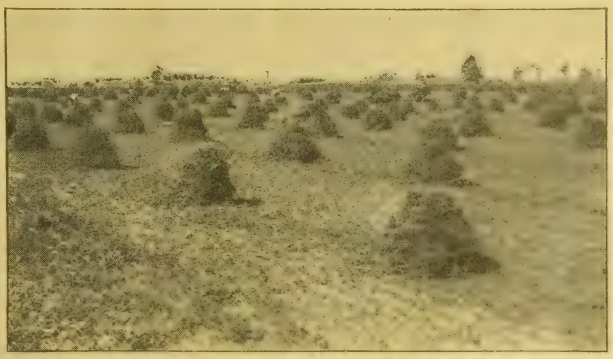
The seed-bed prepared for soybeans is like that prepared for corn, with which we are all familiar. The time of seeding is after all danger of frost is past, usually during the last of May and the first part of June. An ordinary grain drill may be used for seeding, the unused cups in the drill being closed inside the box by pieces of heavy cardboard or light pine boards, to regulate the distance between rows. This distance may range from 28 inches up. When planting for a grain crop, three pecks to a bushel of seed is used; for silage and forage purposes, a sowing of from six to eight pecks gives best results.

Showing how vigorously soybeans will grow under proper conditions

All cultivation should be shallow and level. With 28-inch rows a one-horse cultivator is used, preferably one having 14 or 15 harrow teeth. In handling a large acreage the beans should be planted a little farther apart, in order that a two-horse cultivator may be used. From two to four cultivations should be made during the early part of their growth.

The time for harvesting soybeans will depend upon what use is made of the crop. For hay, the usual custom is to cut as soon as the pods are well formed, since at this stage but few leaves will be lost, and the greatest amount of nutrients are retained. They are harvested like clover, and should be put in cocks. When used for silage purposes, soybeans should be put into the silo with corn at the rate of two-thirds by weight of corn, with one-third by weight of soybeans. Altho a highly concentrated feed, soybeans have not been successfully siloed alone, since they impart a strong flavor to milk when fed to dairy cows. The stage for best silage is after the beans are well formed and before the leaves begin to drop. Cutting for seed varies with season and variety, but experience has shown that a cutting after the pods have lost their natural color, and after the pods have taken on a brownish or blackish appearance, gives best results. A mower and side-delivery rake will handle the crop nicely for seed. The beans should be cooked and well cured before threshed.

As to yield, soybeans, like any other crop, depend a good deal upon the man putting in the crop. An average crop of seed is from 18 to 20 bushels to the acre. However, last fall, I saw a field of 15.4 acres which threshed out 415.3 bushels, or an average yield of 27 bushels per acre. The chief value of soybeans as a hay crop comes when it can be used where another crop has failed. For instance, in case of failure of clover, or some spring crop, like oats, corn or barley, the land can be utilized to excellent advantage by growing a crop of soybean hay. In quality good soybean hay compares favorably with alfalfa. For silage purposes a crop of eight or ten tons per acre is common. This is about half the yield of corn for the same purpose.



This 15-acre field of soybeans yielded an average of 27 bushels an acre

Wise choice of varieties depends upon what use is to be made of the crop. Some of the best varieties which have been developed at the Ohio Experiment Station, after nine years of experimental work, are as follows: For seed, Chestnut, Ito San 17268 and Ohio 7496, Ohio 9016, Ohio 9110; for hay, Cloud, Sable, Auburn, Ebony and Medium Green; for silage purposes, Medium Green and similar types.

Nature's Stock Food

Proper Management of the Hay Crop Will Preserve the Succulence Stored in Our Grasses

YEARS ago, when natural grasses and timothy furnished the main supply of hay, the harvesting of the crop was a simple operation with small exposure to the weather. But since the more general growth of clover and alfalfa plants for hay, farmers are finding it far more perplexing to secure the crop without damage. Hay from clover and alfalfa, cut green and properly cured, is more palatable and nutritious than hay dried before it is cut, and is worth working for.

All kinds of stock relish clover and alfalfa hay, and, properly used, it reduces the cost and adds to the efficiency of the ration. Add to this the larger yield and the permanent enrichment of the soil by the growing of these nitrogen-gathering plants, and we can readily see why the farmers of America must gradually turn their attention more and more to the production of these proteinaceous hay crops, and grow fewer acres of grass for winter feeding.

Cutting should start as soon as the most advanced fields are fit to make good hay. If one has a large acreage the work should be started before the field is in full bloom, so that the bulk of the crop will be cut before the heads begin to turn brown. Alfalfa is even more exacting about the time it should be cut. If it can be cut when the little shoots have started out about an inch from the crown, it yields a better hay and grows up more readily than if cut at any other time. This brings the first cutting a few days ahead of the first cutting of clover.

It pays to cut these crops early, so that a vigorous second growth will start up rapidly. Many farmers sacrifice the real value of their hay for the ease and satisfaction of cutting and hauling it to the barn the same day. Others go to the extreme of cutting it when its chief asset is water and overlook an expanding root system capable of gathering and storing great quantities of animal food if allowed to stand a few days longer. If we have large fields we must begin cutting before the grass is just right, but it is wrong to cut half-grown clover and alfalfa.

It is always a perplexing problem at haying time to keep up the other activities on the farm so that the crops and stock will not be neglected. The efficient farm manager aims to have plenty of help and horsepower available, so that the cultivated crops will not suffer at haying time. The number of acres of hay one has to harvest sets a limit to the acreage of corn and potatoes one should plant. Not all of the farmer's time is required to cultivate the corn and potatoes, and he can, therefore, sandwich the work together to keep all hands busy without slashing down hay promiscuously when the weather looks catchy.

Beyond this limit, however, the haying and cultivated crops conflict, and require considerable labor from outside sources, or a reduction in the area of corn and potatoes that can be planted. The interference of haying with these cultivated crops is very frequent and disastrous. It is a situation where one must weigh the value of his hay and cultivated crops against the wages of extra men, and get them if he can. As a rule, it pays to hire extra hands early, and get the work in shape so that the haying may be rushed to the limit when the great crush of work comes. It is far easier to rush the work of securing the hay crop than it is to have the work rush you.

It costs a little more this way, but the hay is properly cured

In the middle-western and eastern states precautions should be taken against an undue exposure of the hay to weather hazards during the early summer. At best it requires skill and sound judgment to make hay during catchy weather, for in these localities early haying comes at a time when the weather is uncertain. It is easy to tell how to make good hay when the sun shines, and to criticize good judgment that has been thwarted by rainy weather, but it is beyond the power of any man to make first-class hay during wet weather. If the hay is cut there is no turning back. A rain means extra work and damaged hay. There is no escape from labor in handling the early cut hay a few times over, especially if it must lay in the cock two or three days before it can be hauled to the mow.

One practice I have always found safe is to cut only what can be handled the same day. Cut in the morning, shake out along toward evening, and rake up and put in cocks before the dew gathers. If it is protected in this manner, the leaves, being comparatively dry when the hay is put into the cocks, escape drying to brittleness and breaking off from the stems. Opened up the morning of the third day, the most of the moisture, having gone from the stems to the leaves during the sweating process, quickly evaporates, and the hay is ready to haul to the mow immediately after noon.

Hay cocks and covers are essential to the proper curing of the first cutting of clover and alfalfa. Clover and alfalfa, cocked and covered with cloth covers, so far as immunity from water soaking is concerned, has a great advantage. The reason so many farmers object to this method is because it precludes the use of the loader. The additional expense of curing the crop in the cock amounts to nearly seventy-five cents a ton, but it is easy to see that much difference between bright, clean hay with the leaves on, and a mass of bleached, naked stems. Clover and alfalfa leaves are about as valuable, pound for pound, as wheat bran, consequently every effort should be made to save them in a palatable and nutritious form. The deterioration from exposure and the risk of the hay getting in the mow will more than

Haymaking is as much of a science as any farm operation, and requires just as close attention

repay the cost of the hay covers the first season they are used.

The hay tedder improves the quality of the hay when the yield is heavy. It hastens the curing and enables us to save many tons that would otherwise be left out in the field exposed to the sun and water. The tedding of clover and alfalfa must be started as soon as the plants are thoroly wilted, and stopped before the leaves get dry and the hay thrown into windrows. After going over these crops once more with the tedder, it is best to turn the windrows with side-delivery rakes, simply rolling them over and exposing all sides to the free circulation of the air and sunshine. This reduces the loss of leaves, and the hay is rapidly cured.

The drier air and soil of late summer makes the harvesting of timothy less hazardous. The handling of timothy or mixed hay is less difficult, for the hay is ready to go into the mow in a short time if the days are hot and the sun shines brightly. Timothy had best be cut when in full bloom. The best time to cut it is in the afternoon when the plants contain the least moisture. When it is cut in the afternoon, a rain the same day will not do any serious damage, if the tedder can be started early the following day. The sooner we loosen the swath and allow the air to dry it, the sooner it will be fit for the mow. After it is tedded a few times it may be raked into medium-sized windrows and tedded two or three more times.

If the weather is right it should be ready for the mow the next afternoon after it is cut. It should be cocked only when there is danger of rains. When placed in the mow care must be taken to keep it well spread and tramped down, especially when a horse fork is used in unloading.

The time for cutting should be governed largely by the animals that are being fed and the uses that are to be made of it. Cows that are giving milk thrive best on early cut hay. Horses that are being worked hard thrive fully as well on hay that is cut when a little out of bloom. Thus the first cutting will make better cow hay and the later cutting good horse hay. Many still cling to the idea that because late-cut hay analyzes better than early cut hay it has a higher feeding value, but it is wrong to view the matter in that way.

If we feed late-cut hay to young stock in the winter they will become thin; then turn them out to pasture, and they begin to shed off their old hair and look fat and sappy. How is this to be accounted for? Not because the grass contains more protein, or that it is a better-balanced ration. It is due to the better mechanical condition which enables the animals to get more nourishment from it. It is green and succulent and easier to digest and assimilate. Grass is nature's stock food, and the more nearly we can save it in its natural condition, the nearer we will come to having an ideal feed for our stock. If we preserve that rich succulence that nature puts into our grasses we will secure the highest development that our animals are capable of reaching.

MUSIC FOR THE FARM HOME

We have heard many times that one of the crying needs of rural life is entertainment of a character that will make those who live on the farm contented. The main reason why this has been called to our attention so many times is apparent, namely, that different kinds of talent cannot be brought to the "leading theater" in town; picture shows are not at every corner, nor amusement parks available as in the larger cities. Consequently, if entertainment is not supplied in the home in rural districts, life seems empty to the younger generation. We can then see how important it is to make the home a place where a person can enjoy a recreative hour a little more pleasantly than any other place.

I believe that no one single thing will tend to make the home more enjoyable than good music. It makes little difference what kind of instruments are used to produce this music if it is only the right kind, and produced with a genuine interest. "Home-made" music, no doubt, is the best, if the player has the proper training. However, think of the opportunity of the present day in the various kinds of musical inventions, such as talking machines and player-pianos. These enable a person, no matter how distant he lives in the country, to hear the best singers, celebrated orchestras and world-famous bands in his own home. This solves the problem of those who do not have any home talent, as well as adds to the pleasure of those who do have and like something different.

The point is to have good music in the home regularly, and then there will be no such thing as monotony due to lack of proper entertainment in recreative hours. Remember to choose the songs that live, those which make for home consciousness, and your happy hours will be increased many fold.

GOOD WORK

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A lady in Mo. writes, "I was compelled to retire from my school teaching because I was broken down with nervous prostration.

"I suffered agony in my back and was in a dreadfully nervous condition, irritable, with a dull, heavy headache continually, had no appetite and could scarcely digest anything. I was unable to remember what I read and was, of course, unfit for my work.

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"I began with Grape-Nuts, a little fruit, and a cup of Postum. I steadily improved in both body and mind. Grape-Nuts has done more for me than all the medicine I have ever taken. I am now well again and able to do anything necessary in my work.

"My mind is clearer and my body stronger than ever before. "There's a Reason." Name given by Postum Co., Battle Creek, Mich.

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Tillage In The Orchard

A Practice Which Yields Rich Returns In Hardy Trees and the Highest Fruit Production

By Alvah H. Pulver

TILLAGE is a matter of all importance to the orchard, whether that orchard be one recently set out or one in bearing for a good many years. The old saying, "Water your garden with a rake," holds eminently true in the care of any orchard, regardless of the variety of fruit being propagated.

Tillage, in its complete sense, may be called the working of the soil, whether by harrow, cultivator, plow or other implement. This practice, in its most expansive meaning, came into its own with the advent of commercial orcharding on a large scale. Before that time many growers permitted their orchards to take care of themselves, so far as the soil was concerned.

I once saw a dead young orchard in which there had been no tillage. The orchard was set out just before a legal entanglement came, where the title of the farm was involved. Nothing further than the planting of the trees had been done. There they were in heavy sod, and so far as I could see, every one dead. The successful orchardist of today tills his orchard as regularly as he does his other crops.

What does tillage do to the physical condition of the land? For one thing it will keep the soil moist. It should be well understood that nothing can do well where the surface of the ground is caked. The sun's rays attract thru capillary action, drawing up the water in this way. If the surface be broken up into small particles, forming a dust mulch, capillary action is destroyed, and water ceases to come up thru the soil.

Then, by tilling, we refine the soil, which gives greater feeding surface to the roots, enabling them to branch out with greater freedom. Chemical changes are brought about in the soil, new plantfood is set free, organic matter is more easily decomposed, and the ammonia nitrified.

Nearly all the growth of an orchard is made before the summer months, so it is essential that during the growing period, or time of wood formation, they should receive the most food and moisture. In some parts of the northern fruit district of the country, twig growth is stopped as early as June. In New York state the average date falls on about the middle of July, when tillage should stop. At least once a week, and, if possible, twice a week, until the growth stops, the trees should be cultivated, and then the land can be seeded with some leguminous cover crop—winter vetch or mammoth clover being preferred. If the land be tilled beyond the middle of July there is strong likelihood of damage to the fibrous roots being inflicted, as by this time they have taken on a good healthy growth and should not be disturbed. A few feet of untilled land about the base of large trees does not harm the trees at all.

As there are yet many of the older school who believe in sod for the orchard, the yield per acre of tilled and sod apple orchards, based on a five-year average from an orchard in Orleans county, New York, is here given: Tilled ten years or more, average yield, 327 bushels, average income, $182; tilled five years or more, 274 bushels, $138; tilled over half of preceding five years, 225 bushels, $113; sod over half of preceding five years, 222 bushels, $107; sod five years or more, 204 bushels, $108; sod ten years or more, 176 bushels, $87. Where sheep or hogs were pastured in sod orchards the yield was better than the average, but still less than that of the tilled ones.

There is one thing that sod will do, and that is to impart color to the fruit. Were all apples to be judged by the eye alone, and their keeping qualities excluded, the sod fruit would carry every prize, just as it did at the Panama-Pacific Exposition, when Grant Hitchings, of Onondaga County, New York, won the grand sweepstakes and nearly a score of prizes and medals thru his exhibits of fruit grown on his celebrated sod orchards. Mr. Hitchings is sincere in his advocacy of the sod orchard, and we all grant that the fruit does make a grand show, it being most difficult to give Baldwins that deep rich glow, so much desired, when grown in a thoroly tilled orchard.

Lighting the orchard heater—a familiar practice in northern orchards

But the practice of the most extensive growers is against the sod theory, and more and more is this becoming the practice of the smaller ones. The supreme test of either theory is found in the hardiness of the fruit grown, and there the thoroly tilled orchard wins out, for the fruit so grown stands up, and has much better keeping qualities. There is not so much maturity latent in the apple at time of harvest, and its keeping state is lengthened.

Of course, there are some orchards, such as those on steep hillsides, where conditions may be so unfavorable that the orchard should be cultivated. But in the great majority of cases there is much to be gained in following up the practice.

An orchard that is regularly cleaned up, and maintained in a cultivated condition, offers no winter harbor for many of the insects that, when given a chance, infest the trees. As to the tillage process itself, one of the first things to see to is that of the natural condition of the land. Where one has a very stony soil, with a large number of hardheads, the thing to do is to wage constant warfare on them, for it is practically possible to so clear the land that it can be cultivated fairly easy. Of course it entails labor, but every hardhead drawn off, or buried without moving, means real enhancement to land value.

For plowing, the three-bottom eight-inch gang-plow is much better than the ordinary walking plow, as the depth is very easily adjusted. Whenever the driver strikes a piece of hard ground, or a piece of soft, he can easily adjust the levers so that the depth can be fairly even. The usual depth for plowing in apple orchards is about three or four inches, and it is better to plow just as early in the spring as the land will work well—that is when it is not wet enough so that the land will bake. A man with a good team can plow four or five acres per day with such an implement. For the first furrow around the trees, there is a plow made that is designed with the idea of throwing the team and man away from the tree. Usually one furrow on each side of the tree is sufficient.

For cultivation a light-draft harrow can be used most of the time. This can be had in different widths, from five feet to sixteen feet, the nine-foot harrow being the one most used. On heavy soil it does the work that would be done with a smoothing harrow on lighter soils; on light sand or gravel this is a very effective tool, if the ground is kept well cultivated.

Cultivation needs to be very thoro, and should be done once or twice a week, especially should the orchard be covered as soon as possible after a rain, so as to break the crust up to the time when the leaves begin to look green and dark, and of unusually large size. Before the new wood has made much growth the orchard should be seeded to clover or vetch to stop this growth on the trees.

Too much importance cannot be placed on the need for plowing as early as possible consistent with weather conditions. For our part of Western New York the growers follow a prac-

(Continued on Page 13)

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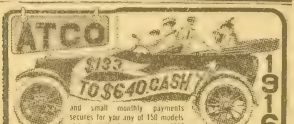

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Saving The Litters

Cumbersome, Excitable, Vicious Brood-Sows Are Not Profitable For Farmers

By J. A. Raiser

A NUMBER of farmers complain that they have very poor luck with their litters this spring. Some farmers are losing practically all of their pigs at, and shortly after birth, and it seems the cause is not known. This phase of farm work requires very careful attention, both prior to and after the birth of pigs. I do not say that all pig losses are due to carcless management, but I do say that carelessness in this business is expensive. A sow that loses her litter becomes a boarder at the expense of the farmer. It pays to sleep with one eye open when pigs are expected, and to be right on the spot when they come.

There are enough young pigs trampled or lain upon by cumbersome, excitable and vicious brood-sows on many farms to make hog-raising unprofitable. How this loss of pigs may be prevented, is the quite seasonable, if not quite so easily answered, question.

First, get rid of the cumbersome, easily excited or vicious brood-sow, and get in her place one which is just the opposite, of gentle disposition, but not sluggish or lazy, for a sow of this nature is apt to lay on her pigs out of indifference or sheer laziness. Over-fat brood-sows are apt to lay on their pigs also.

Second, let your hoghouse or farrowing-pen be so constructed that the brood-sow cannot lay down close up against the walls, for as a rule, the sow makes her nest against one of the walls, and when the pigs farrow they are very apt to get between the wall and the sow, and get smothered or mashed. To prevent this provide a fender by fastening a scantling a foot from the side of the pen and eight or ten inches high. This will leave an open space between bed and wall, where pigs will be safe from being crushed.

Brood-sows should not be allowed to be inactive. Keep them on the move at least part of the time. If sows lie in beds, as they sometimes do, for a month or more before farrowing-time, especially if the weather is very cold, they are apt to produce little weak, unhealthy pigs, some with a tendency to disease from the beginning. On the other hand, as a strong contrast, take note of the active sow's litter; see how much larger the pigs are, and how strong and thrifty. Such pigs are born with a tendency to push right along to early maturity. Such pigs are seldom lain upon.

Don't make the mistake of feeding too much corn or any other too-great heat-producing feeds, near farrowing-time. As a substitute feed ground oats, wheat-bran and a little middlings made into a slop. This feed tends to keep the bowels open, and is somewhat cooling to the whole system.

It is not practical to give the sow anything more than water to drink for at least twenty-four hours after farrowing. Also feed sparingly of light feed, such as bran mash seasoned with salt, gradually increasing by adding middlings, ground oats and corn stirred into skim-milk or buttermilk, if you have it. When changing feeds do so gradually, as a sudden change will prove injurious to the litter.

Just prior to, and at farrowing, the sow should be disturbed as little as possible. If she is allowed to get excited or nervous it has an injurious effect upon the litter. An excitable temperament is liable to be transmitted to the young, which hinders the rapidity of their growth. And that is what you want for profit, a rapid growth.

Taking pigs away from the brood-sow requires careful management, so as not to impair the health of sow and pigs. It will be a change of conditions that may result in the loss of several pigs if not judiciously done. Pigs should be weaned gradually for the benefit of both the sow and her pigs. Before weaning, pigs should be taught to eat grain and slop by themselves, then weaning should be accomplished without any injurious effect.

Pure air, pure food, plenty of exercise and sunshine will do more to keep pigs healthy than will medicine to make

Gentle and prolific are two points which should guide the hog-raiser in his choice of a brood-sow

them well after they have become ailing. Measure these out to them generously.

Disease germs lurk in mud. It is not good to feed pigs in mud; and dust is even worse. Don't let your pigs sleep in and around a strawstack. It is injurious to their health and often causes colds and pneumonia. Strawstacks, as well as manure heaps, are too heating for pigs.

Tillage in the Orchard

(Continued from Page 8)

tice of plowing not later than the early part of May. In this way, with the furrow turned as shallow as possible, followed by continuous cultivation, allowing no weeds to grow, the ground is kept in a light, moist condition, the air gets into the soil, allowing the bacteria that work on the ammonia to nitrify it, and thus affording ideal conditions for the liberation of the nitrogen of the soil, so that the rootlets can get it.

Late plowing will surely cut off the fibrous feeding roots which are all thru the soil. The mother tree does not seem to have the faculty of putting out a new set of roots at this time, as it does if plowed earlier in the spring. Therefore, if we could not have an orchard plowed before the last of May it would be better were it not plowed that season, but mowed occasionally.

No arbitrary rules can be laid down for orchard tillage. If the grower holds clearly in mind the objects of tillage, and understands the principles involved, there should be but little difficulty in deciding upon a rational plan of procedure.

The tillage of peach lands is worth the space of a separate article, but a few lines here may not come out of place. A peach orchard should be tilled in most cases thruout its entire life, beginning with the first season after the trees are planted. The tillage for the first year or two may be confined to a relatively narrow strip between each row of trees, if one does not wish to go to the expense of tilling the entire area. But the width of this strip should be extended each year, and by the third year the entire surface should receive attention. By that time, in the life of a peach tree, the roots are extending beyond the spread of the branches, and the full space between the rows is rapidly becoming filled with small rootlets and root hairs, thru which moisture and plantfood in solution are taken up.

The early orchardists did not see the prime importance of full tillage, as is commonly attested in many old orchards that have been in sod for threescore years or more, but in the commercial orcharding of today, where dividends are the thing by which an orchard is judged, the clear and free tilled orchard is the rule.

THE FEED COST OF KEEPING BEEF CATTLE

C. R. Moulton, Missouri Col. of Ag.

Investigations carried on with beef cattle at the Missouri Agricultural Experiment Station during the past nine years have shown that the amount of feed necessary to keep beef steers at constant body weight will vary with different conditions. The ration consisted of two and a half pounds of grain to one pound of choice alfalfa hay. The grain was composed of eight parts of corn chop to one part of old process linseed meal.

One 11 months old steer weighing 607 pounds needed 4.7 pounds of grain and 1.9 pounds of hay daily to keep at constant weight during one year. A second animal of the same age weighing 736 pounds needed 5.6 pounds of grain and 2¼ pounds of hay daily during one-half year. A two-year-old steer weighing 767 pounds kept at constant weight for one year on an average daily feed of 5¾ pounds of grain and 2½ pounds of hay. Another steer of the same age weighing eight pounds less needed daily 6.1 pounds of grain and 2.7 pounds of hay to maintain body weight. This steer was quite active. A three-year-old steer weighing 837 pounds needed 6.8 pounds of grain and about three pounds of hay daily during five months. Two other steers one year old, the first weighing 934 pounds and the second weighing 1081 pounds, needed only 6½ pounds of grain and 2 2-3 pounds of hay daily during two years. A two-year-old steer weighing 1212 pounds was kept at constant weight for four years on the same daily weight of grain and hay as used by the last two steers. Another steer weighing 1065 pounds was kept for over two years at constant weight with a daily ration of 6.1 pounds of grain and 2½ pounds of hay. This last animal was kept confined in a stall while the others had the run of a small lot. The last three steers were very fat at the beginning.

What Would We Do Without Sugar?

GATHERING SUGAR CANE

HOW SUGAR CANE GROWS

We are so used to sugar that we are likely to forget to give it its properly important place. Right now if somebody asked you what sugar was good for you'd probably say—"Oh! to put in coffee and tea and for making candies and desserts." That's it—we all think of sugar as a sweetener and overlook its value as a food.

The chemists classify sugar as a hydrocarbon—that name may or may not be interesting to us, but what is interesting is their statement that it has, as a hydrocarbon, equal food value with the starchy foods and by digestion largely adds to the fatty tissues of the body.

Why do we eat sugar anyway? Your first answer might be: "Because it is sweet and tastes good." Of itself the answer would be correct, but the more important fact is that the body craves sugar because it needs it. And when the body craves something it gives us an appetite for it. So primarily that's why we like sugar and things made with sugar and not just because they are sweet.

In view of the fact that sugar has gone up so tremendously of late these facts are interesting because we find that instead of the luxury sugar having gone up it is the FOOD sugar that has raised its price. Yet—even though the price is up we have to have our sweet food just the same.

Certainly the makers of that delicious beverage Coca-Cola must have discovered that sugar is up, because one of the principal ingredients in making Coca-Cola syrup is fine cane sugar. Think of it!—they use an average of 80 tons of sugar a day—about 4 carloads. But unlike many manufacturers that company has itself borne the raise and so you and I pay just the same today for our bottle or glass of Coca-Cola that we've always paid. Incidentally, this phase of the situation is a good reminder of the benefits one gets from drinking a beverage as pure and good as Coca-Cola. Not only do we please our palates and derive wholesome refreshment from the drink but we also give our systems that bit of sugar sweetness that they crave and which is necessary to health and tissues. Is it any wonder then that Coca-Cola is so popular and so universally drunk that it has been called "the drink the nation drinks"?

Photos By American Photo Co. Havana

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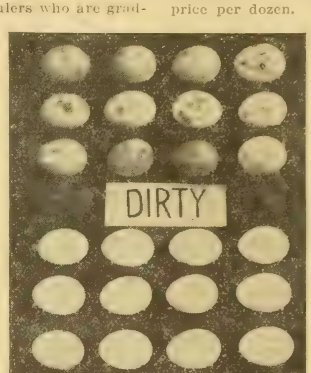
Eggs are Eggs---No

Size and Cleanliness Makes the Difference When Seeking a Lucrative Market

By George B. Crane

THIS is a good time to think about the marketing of eggs. This is when millions of dozens are sent to the various markets. The flock that loafs most of the other months in the year gets busy in April. The matter of price received for these eggs is of vast concern to farmers in general at this particular time, because the increase of price paid the producer of a single cent per dozen would mean thousands of dollars the country over.

The chief step we farmers can take, to get a little better price for eggs each succeeding year, is to place a better quality of egg on the market. Some may say, "What's the use, because we all get the same price anyway." This is not true of every section. I know of several large egg dealers who are grading their eggs and paying bigger prices for the high-quality eggs. The future is bound to see more attention paid by farmers in producing better eggs, and consequently by dealers in paying for eggs on the quality basis.



The same reason governs the selection of eggs as in fruit

To improve the quality of eggs marketed does not necessarily mean that we must all have purebred poultry and the latest-model poultry houses, altho these are to be commended. It means that we must watch the important little factors, such as clean nests and roosts, dry, well-kept houses, and furnish a variety of the proper kind of feed. It means that we must keep better account of collecting the eggs from the nest regularly, and that we should place them in a cool dry place as soon as possible after gathering. Further, it requires that we market the eggs frequently, and with regularity. The selection of the best-colored and best-shaped eggs, right on the farm, will also count heavily in favor of a better price eventually.

This is a problem on which we must work together, and keep everlastingly after it, in order to accomplish results. It is my belief that we are already getting better year-around prices for eggs than we used to. This has been due to a bigger, steadier demand as one factor, and to better quality eggs as another. This is what makes me most hopeful for the future.

Another point that will demand more of our attention in the future, is the matter of selling by weight and not by numbers. However impractical this may seem at the present time, it is worth considering. At a recent egg show, which, by the way, is a new kind of a show for me, the weight of the heaviest dozen eggs was 30 ounces, while that of the lightest dozen was but 22 ounces. The man who bought the 30-ounce eggs received 25 per cent more food than the man who bought the 22-ounce eggs. Were not the heavy eggs worth more? In some states laws are already in effect requiring that a dozen eggs weigh a certain amount. If it is impractical to sell eggs by weight, we must keep in mind that the weight of a dozen of eggs is one of the points taken into consideration in judging the quality of eggs, a factor which will more and more count towards a better price per dozen.

PET YOUR PULLETS

By L. H. Cobb

Some people don't seem to care how frightened the hens are at their appearance, but this is all wrong. It doesn't pay to get your hens so they fear you, for every bit of scare and excitement takes energy that can be better employed in filling the egg basket.

The ideal flock of hens will be contented and happy, and when the owner enters their lot will crowd around him singing and talking to him in hen language, a confidential chat that every real poultry lover recognizes. Hens naturally dislike being handled, but if you try to slip your hand under one and she quietly sidesteps, or, failing to escape, permits herself to be lifted with a little scolding croak or two, without any frantic effort, you can do anything you please with them without making them nervous and excited. To have hens like that the training must begin in their pullet days.

I always petted my chicks to a certain extent from the time they were hatched, even if they were allowed to run with a hen. Generally their mothers were gentle, and that is the only kind of a hen I would allow with chicks if I knew it. Sometimes hens are deceiving, and will be nervous with chicks when seemingly steady enough when set. Mark such hens, and keep them on the laying job ever after.

I have had flocks of chickens so tame when they were old enough so the cockerels weighed three pounds, that I could scatter some feed around the

shipping coop, and pick up the cockerels and put them in the coop without any disturbance. I have done this several times.

In the winter, when hens have to be shut in the house pretty close, these tame hens will never lose any nervous energy while you are feeding or watering them, and when you split beets or carrots for them, and hang the vegetables on nails on the sides of the house, they will crowd around you to get at them, well contented. They will be on hand for their warm mash, or for the rabbits you skin and hang up for them. Your appearance will be looked for with approval, and this contentment will be shown in the increased number of eggs over the nervous, half-frightened flock.

DIRECTIONS FOR PAINTING METAL ROOFS

Common paints put on iron roofs in the common way are not satisfactory protection against rusting. Galvanized iron is without question the most treacherous surface to paint, and unless the nature of the surface is understood and judgment used in the application and selection of materials, satisfactory results cannot be expected. In the first place the priming coat must dry principally by oxodization, as there is no chance for penetration in iron. Galvanized iron that has been allowed to stand for some length of time, and especially if it has been exposed to several hard rains, is much more satisfactory to paint than if painted as soon as laid.

The roof must first be well cleaned with a stiff wire brush. This breaks the hard glaze of the surface and especially roughens up the joints which have been soldered, thereby giving a better surface for the priming coat. A mineral paint, ground in pure linseed oil, properly reduced with turpentine, makes a good first coat when treated as suggested; but the most satisfactory priming for galvanized iron is a coat of red lead. This should be mixed thin, well brushed on and allowed to get very hard before finishing coats are put on.

Red lead of itself is a natural dryer and will oxidize on the surface. A good reduction is at the rate of 35 pounds of dry red lead to one and one-eighth gallons of boiled oil and one quart of turpentine. If wanted reduced still more, do so with turpentine. Mix only the required amount for immediate use. Mix the dry red lead with three-fourths of the oil the day before the mixture is to be used. This will give a more even incorporation of the oil and pigment. The next morning add the remainder of the thinners and stir well. Keep the paint well stirred while using.

When this red lead coat is well dried, there should be applied a coat of common paint, thinned with turpentine and oil.—J. A. Bonnell.

REMEDY FOR CUTWORMS

Where these worms are very abundant, especially wherever they take on the migrating habit, they may be destroyed in great numbers by the use of the arsenic branmash preparation such as is used for the destruction of grasshoppers. It is prepared in the following proportions: Paris green, 3 pounds; bran, 50 pounds; cheap syrup, 4 quarts; lemons or oranges, 10.

Mix the paris green and bran together while dry; dissolve the syrup in the water; squeeze the lemons into this and finely chop the peel and pulp and add them also; pour this mixture into the bran and paris green, and stir so as to dampen the mash thoroly. The lemons may be prepared by putting them thru a meat grinder. Distribute the mixture broadcast in as fine particles as possible where the cutworms are most abundant. The application should be made toward evening or early (between 4 and 7 o'clock) in the morning. From 3 to 5 pounds of dry bran is usually sufficient for an acre of land, when used against grasshoppers. Never distribute in little piles. For cutworms, distribute more freely just ahead of the line where damage is most apparent.—C. P. Gillett.

The money for sorting a wool clip is just as good in your pocket as in the buyers'. Try it out this season, and see if you can't get a few more dollars toward that farm tractor or automobile.

GOOD REPORT

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"Coffee was banished from my own table some time ago and Postum used regularly in its place." (Coffee is injurious to many persons, because it contains the subtle, poisonous drug, caffeine.)

"I frequently find it necessary to instruct patients when they take Postum for the first time to be quite sure that it is properly made according to directions, then it has a clear, seal-brown color and a rich, snappy taste, as well as health giving qualities."

The above letters, received over ten years ago, is fully confirmed by a recent letter from the doctor, in which he says:

"It is a pleasure to render a good report covering a product of which I am so enthusiastic a friend.

"I am using in my home your Postum Cereal in both its forms. And, what is more, I am having it used in the families of several patients in which there are children, and all unite in endorsing the fine qualities of your admirable product."

Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms:

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Farm News, Locket Dept. Springfield, Ohio

GIRLS This BEAUTIFUL GOLD SIGNET SEAL RING **FREE**

Just get **ONE** friend to give you 25c for a full year's subscription to **FARM NEWS**—send us the name and the quarter and we will mail you this elegant Ring (guaranteed for 5 years by the manufacturer) with your own initial engraved on it. Enclose 5 cents extra for postage. 30 cents in all. Address

FARM NEWS, Dept. S-10, Springfield, O.

Home Canners and Canning

An Undeveloped Side of Farm Life Which Gives Promise of Saving Vast Waste and Yielding Profit

By Eva Ryman-Gaillard

CANNING fruits and vegetables for home consumption is part of the work of every farm housewife, but on many farms much material has been allowed to go to waste, or sold without profit, because the labor involved in old-time methods of canning made no appeal to the housewife who could not afford to work without some profit.

Times and methods of work have changed, and home canners are now available that will care for fruits, vegetables, and meats in a way to make the work profitable, and a good trade may be built up by a little judicious advertising, with products kept up to a high standard. Such canners may be had in sizes ranging from one that fits one hole in the range top, or a one-burner oil or gasoline stove, up to one having its own furnace, that will hold from twenty to thirty cans at a time, and make easy work of several hundred cans each day.

These may be set up in the orchard, a shed, or in the house, if one prefers. There are larger sizes that will hold a couple of hundred cans at each filling, but these are too large for anything but commercial, or cooperative club use. There is, also, a choice to make between steam cookers and hot-water cookers. Prices will range from $5 up to $100, and a few at even higher prices. One holding from one to two dozen cans can be had for $10, or a very little more.

It may be said in passing that either tin or glass cans may be used, and the canner outfits include everything needed for the work, including instructions in the best methods of handling and preparing the fruit for the cans, as well as how to operate the canner.

As to whether steam-pressure or water-jacket canners are best I can't undertake to say. Have used both, and one gave as good results as the other, and one is no more trouble than the other. But some people feel afraid of an explosion when using the steam-pressure canners. Whether there is a danger or not is a subject for each to investigate and be satisfied of, individually.

By the old method of cooking and canning, while hot, there was no chance to cook more than one kind of fruit or vegetable at a time, but with a canner, and the modern cold-pack methods, a single can, each, of many varieties may be cooked at the same time, so that from the time of rhubarb, spinach, asparagus, and other early greens, to the latest fruit, the housewife may be putting away an assortment of things that will appeal to the city or town dwellers.

Vegetables and fruits in glass jars find a ready sale among flat-dwellers

The cold-pack, as generally used, consists of packing the fruit or vegetable into the can and filling with hot syrup (made of sugar and water), or brine, and placing in the canner for cooking. Immediate cooking and sealing are advisable when tin cans are used, and the syrup, or brine, being hot, hastens the cooking process, but in my own work I use glass cans, and often prepare my fruit or vegetables the night before. Pack into the cans as fast as prepared; fill in the syrup or brine, and put rubbers and tops onto the cans. Even peaches or pears will not discolor when treated in this way, and in the morning I loosen, but do not remove, the tops and start the cooking process. I said "syrup or brine," but more often it is only cold water with the needful amount of sugar or salt, and my fruits are more satisfactory, because more like fresh fruit, than by any other method I ever have tested.

Bacteria, or mold spores of one sort or another, are the sole cause of the fermentation of canned fruits, and more especially active in vegetable products. Experts learned several years ago that one cooking killed only the developed spores, and left others to develop within twenty-four or thirty-six hours, so we came to the time of the three-cooking process. Now, we know that the blanching by scalding for a few minutes, and then chilling in cold water before packing into the cans, serves the same purpose as the extra cookings, and serves several other purposes as well, details and directions being found in the instruction books sent with canner outfits, or in the bulletins on "Home Canning Instructions" and "Tinning and Capping," that will be sent to anyone on request from the Office of Extension Work at Washington, D. C., if addressed in care of the United States Department of Agriculture.

Comparatively few housewives have tried the home canning of meats, but those who have are enthusiastic over the possibilities the work opens up, as a financial venture, and a means of having fresh meat at all times, for the canned meat is like freshly cooked meat when served. Chicken is especially fine, and may be canned in either of two ways.

First: Joint the chicken as for ordinary use, cut the breast across a couple of times, and pack into glass cans, crowding as tightly as possible. Put a half-teaspoonful of salt in each can, and a little water. Put tops on loosely and cook in canner for from three to five hours, depending on size and thickness of joints. Leave out the backs, necks, and wing-tips, as they have not enough meat to pay for space filled, but if not wanted for immediate serving they may be cooked until the meat leaves the bone, and the meat alone, well seasoned, packed into cans and cooked for an hour.

The second method is different only in the cooking of the meat before packing, and less time in the canner. In the latter case the meat is shrunken, and must not be crowded as tightly as is the uncooked, or there will be trouble when taking from the cans. When ready to use the meat, heat the can until the jellified broth softens, and all may be removed without trouble.

Fresh beef, veal, pork or other meats may be canned in the same way, altho in meats of this kind it is better to remove the bones—which will furnish fine soup-stock to be used at once.

Good glass cans, with well-fitting tops and perfect rubbers, are an essential in the work. An added precaution is the paraffining of the tops by dipping the can, after cooling, into a basin of melted paraffin, so as to coat the entire top, and for an inch down onto the sides.

There is no end to the market for jellies in fair-sized glasses, and preserves in small glass jars

I've found it

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THE PEERLESS

YES, here it is, the only self-heating iron on the market that successfully uses the cheapest, safest fuel known, ordinary coal oil, common kerosene. It's wonderful, simply wonderful, how beautifully, how cheaply, a week's ironing can be done with the low-priced, guaranteed Peerless Self-Heating Kerosene Iron. Think of it! A whole day's ironing for a penny. That's about what it costs to heat the Peerless all day long. It's just the kind of an iron its name indicates—no other to compare with it—because it looks better, lasts longer, does better work than any other self-heating iron, and costs less than usual.

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One Cent Pays the Weekly Ironing Bill

Just think of the pleasure of being able to get away from the old hot stove on ironing day. With the Peerless you can do your ironing anywhere you want to—in the house, on the porch, out in the yard, anywhere. All you have to do is heat your Peerless—that's done in a jiffy—it heats while you are putting your ironing board in place. Then iron—iron without thought of anything else—no extra steps to take—no dirty coal or splintery wood to put in the stove—no danger—no expense—everything lovely and the day's work done in no time. Surely you want the Peerless when it costs so little and means so much.

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You'll be surprised at the price of the Peerless. It's a whole lot less than you would expect to pay. Every time you use it you'll save its cost in steps and other labor saved—besides the saving in fuel. One cent will pay for all the oil used in a day. The Peerless burns 95 per cent air and 5 per cent oil.

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Uses Common Kerosene Absolutely Safe

Yes, so safe that you can handle it in any way without fear—so simple that a little girl can operate it. Look at the picture. That's just how the Peerless looks. No wires or tubes to get in the way when ironing. Nothing to get out of order. No soot, smoke or dirt. Regulate your heat while ironing—by turning the small thumb screw. Nothing to do but iron, iron, iron until you're through—and that's the beauty of it—you'll be through in half the time, ready to go out or do anything you like. Remember, you don't have to take a single risk—you may have the Peerless on a 10 days' trial anytime.

New Book This GUARANTEE

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Should any part become injured or broken through defective material or imperfect workmanship, or should anything happen to prevent the iron from working properly, for one year after you receive it, we will furnish new parts to put it in good order free of charge, or if it is necessary, we will replace with a new iron, for which we will make no extra charge. We will not knowingly permit any iron to be out that will not do its work.

(Signed) THE PEERLESS MFG. CO.

THIS LEGAL GUARANTEE protects you against loss. It is backed by our capital of $100,000.00, our financial standing, and our long, honorable business career which has never been intentionally violated. Our guarantee is broad and fair, and assures every purchaser of a square deal.

A Beautiful Iron

That Does Beautiful Work

Every woman knows that beautiful laundry work depends on ironing. Nothing but the best iron will do the best work. That's the Peerless—the only successful self-heating iron on the market that uses low priced, safe coal oil for fuel. It is perfect in design—made for every class of work from finest laces to heaviest flat pieces. Its even, self-made heat saves hundreds of steps.

Every woman loves the Peerless—read what Mrs. Wiles says about hers:

Dear Sirs: "I certainly am well pleased with my Peerless Self-Heating Kerosene Iron. It seems so odd to me to keep on ironing and ironing and not have to change irons or put wood in the stove to keep my irons hot. I want my friends to have and enjoy the Peerless, so please send me your agents proposition and advertising matter."

AGENTS ENORMOUS PROFITS

Agents are making more money with the Peerless Self-Heating Kerosene Iron than with any other article in years. Women simply can't resist it. They know the minute they lay eyes on the Peerless that it's the iron they've been looking for—the iron they can afford because the price is low and the cost of using practically nothing, because it uses cheap, safe coal oil. No experience necessary—you can't help selling the Peerless—every woman wants one. Simply showing the iron usually means a sale. Our offer to your customer always holds good—10 days' trial, and every iron guaranteed. Send the coupon—get the particulars. Learn how our agents are getting rich. Many sell a dozen or more daily. Two or three sales a day brings you big income—$30 to $45 weekly. Costs nothing to investigate. Learn how to GET SAMPLE FREE. Send coupon now while you're at it—before you forget.

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MATT YOUNG, Pony Man
Dept. S16 Springfield, Ohio

Keeping Butter Sweet

Clean Sanitary Care Necessary For It to Reach the Customer in Satisfactory Condition

By John Underwood

All animal fats take up odors with avidity, a fact which is turned to much commercial account in the manufacture of perfumes. The most delicate odors are purchased by the perfumers in the form of pomades, which are nothing more or less than pure lard, which has been allowed to absorb the odors of the particular flowers until it has became saturated.

Butter has this same quality, and can readily absorb enough odor in a single night to unfit it for table use. As the cellar of the farmhouse often has to take the place of the refrigerator, or cold storage vault, as well as serve as a storehouse for vegetables and various other articles of food, it frequently happens that butter, kept in crocks or other vessels that are practically open to the air, soon becomes tainted. This happens still more quickly with butter that is put away in refrigerators in company with raw and cooked foods.

A method which is effective, not only in keeping butter free from the taint of odors, but also from rancid deterioration, is to use an enclosing vessel having a water seal. Such an arrangement, of almost any size required, can be easily extemporized from various utensils that can be found either about the house as at the hardware stores. Thus for keeping butter and cream in crocks holding four or five gallons, a shallow galvanized iron pan, which is made to catch the drip of refrigerators, and a plain, cylindrical ashcan form the combination. The crock is set in the shallow pan, which is then filled to a depth of about a couple of inches with clean pure water. The cylindrical can is then inverted, and set over the crock, the water thus forming an air and odor tight seal between the outside air and the interior of the can.

The water should, of course, be changed occasionally, in order to prevent its getting stale, but good well water will stand for four or five days without the slightest odor arising. This arrangement is equally good for keeping those foodstuffs which must not be allowed to become dry, as the water keeps the air within moist.

For smaller dishes a tin pail and a deep pie tin will form the necessary combination. By using unglazed earthenware, such as the saucers made for setting under flower pots, and a flower pot of a smaller size, with the opening in the bottom sealed with a cork, a cooler is provided as well as a preserver. The unglazed pots absorb water, which rapidly evaporates, thus producing a very considerable cooling effect. Of course the cooling effect in such cases will be the greatest if the vessel be put in a shady place, where there is a good current of air.

METAL INJURES BUTTER

An unsuspected cause of bad flavor in butter is sometimes the use of metallic substances about the churn, where they come in contact with the butter or cream, the storing of cream in rusty cans, or the packing of the butter itself where some metal touches a portion of it. Not only does such metallic contact produce a bad flavor, but it causes the butter to spoil much more quickly than it otherwise would.

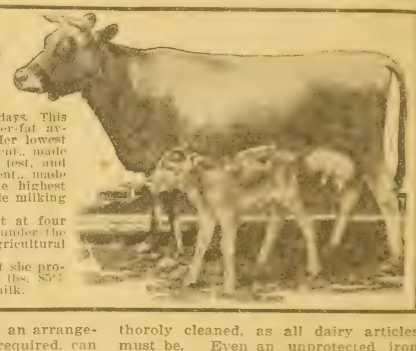
Wood and stone vessels are safe when thoroly cleaned, as all dairy articles must be. Even an unprotected iron bolt head in the churn may be the cause of bad flavor in butter. It is well to look over the dairy implements carefully, and see if anything is being used which could affect the butter.

A HOMEMADE TERILIZER

To keep dairy utensils absolutely clean they ought to be sterilized every day. This is just as important in a small dairy as in a large one. The man who milks only a few cows cannot afford an expensive outfit in his dairy. Many who do a paying, but small, business, have the idea that a sterilizer is

Merry Maiden of Innesfelis 307454

Owned by Dr. J. F. Thompson
Portland, Maine



The milk of Merry Maiden averaged 8.13 per cent. fat for 365 days. This is the world's highest butter-fat average for a year record. Her lowest monthly test was 7.13 per cent., made in the sixth month of her test, and the highest was 10.05 per cent., made in the twelfth month. The highest percentage of fat for a single milking was 11.00 per cent.

Merry Maiden started test at four years, four months of age, under the supervision of the Maine Agricultural College.

The final results show that she produced 500.4 lbs. fat, or 659 lbs. 85% butter from 6,806.5 lbs. of milk.

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an expensive affair, but such is by no means the case.

A good sterilizer can be made at home at a cost not exceeding $7 or $8. Have a tinner make a box three and one-half feet square of 28 gauge galvanized iron. All the joints of this box must be riveted and soldered very closely. The box is now steam tight, with the exception of the crevices about the door, and the box will hold sufficient steam pressure for all necessary purposes of sterilizing. The door of the box should not be quite three feet square, and should be cut to lap about one inch over all four sides of the opening.

Common heavy double-strap hinges may be used, fastened by either rivets or small bolts. A bolt and staple fastened will hold the door firmly closed. The steam may be piped into the top at one side, and a few holes punched in the bottom will drain off the condensed steam. The steam must be turned on slowly at first, and then gradually turned on to full force, with thirty or forty pounds of steam in the boiler, and in about fifteen minutes complete sterilization will be accomplished.

ECONOMICAL PASTURING

There are now many millions of dairy cows on pasture in this country, and the harvest they will bring forth is one of the greatest of our resources. To best handle this pasture crop, with the cows considered, certainly deserves a little thought and study. Bluegrass and white clover is the pasture crop of the principal dairy sections, and these plants need rain and frequent clipping, and weather not too hot. For this reason such a pasture will furnish more feed if the plants are not allowed to go to seed.

When bluegrass goes to seed it fills its mission for one year's growth to a great extent, and will not produce the feed it would had it not seeded. It is a fact well known that a lawn well clipped will produce more grass than one not so treated. During the hot season, when the flies are bad, cows will naturally do much of their own grazing at night, and it is well to let them have the run of a night pasture. This, to make it handy for early milking, should be located close to the barn or yard. The night pasture should be freer than any other from weeds that are likely to taint the milk, as the cows cannot see to avoid eating the weeds.

High ground, free from mosquito pools or ponds, is preferred for night pasture, and it may be with or without shade, but a small grove would be used by the cows during stormy weather. The day pasture may be the main pasture, and some distance from the farm buildings. It should have plenty of shade and good water, and even a clump of underbrush will come in good turn during flytime.

In winter cows turn their backs to the wind, but in summer they face it, and on warm days they will nearly always be noted grazing on the highest part of the pasture, where they can get the most benefit from the breeze. If one has good fresh water in the pasture, and also stagnant ponds, he should by all means enclose the bad water, so

(Continued on Page 28)

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May in the Farm Garden

Timely Advice as to Early Vegetables, Hardening Off Plants, and Care of Early Stock

By Charles H. Chesley

SOME of the earlier vegetables are better if planted before the first of May, but, if this was not done in April, there is still time to make a first-class garden. In fact there are some crops that cannot be put in the ground with any degree of safety until this month is well advanced. Onions from seed are better if the seed is planted very early. In the southern part of the North-Central states the ground is usually in shape for planting such seeds by the first of April. Not so in the more northern sections, where it is seldom possible to get the ground into condition before May.

For early and summer use it is well to sow beet and carrot seed at this time. Eclipse is a good beet for early planting, altho Crosby's Egyptian is considered somewhat earlier. The latter, however, is of inferior quality, and not as desirable for the home garden. The old Bassano is also good. For winter use, also for canning, we have discarded all but the Detroit Dark Red, which, in our opinion, is the best beet that grows. The seed for a winter crop is not sown until late June or early July. For early use, sow the French Forcing carrot, while for winter storing, put in seed of the Half-Long Danvers at the time the late beets are planted.

If greens are desired for summer use, there is nothing so good as Lucullus chard. Sow the seed now. A row twenty-five feet long will furnish a supply for a large family all summer. Unlike spinach, it seems to be equally as good when the weather is hot and dry, and does not run to seed. The leaves of this plant grow two feet or more in length, but they are better if not allowed to get too large. The leaves, separated from the thick midrib and stalk, can scarcely be distinguished from spinach when cooked. The white stalks, boiled like asparagus, make an excellent substitute for that vegetable.

An excellent vegetable that is little known, but is worthy of more general use, is French endive or Witloof chicory. Seed sown in the garden rows this month and the plants thinned to stand six inches apart, may be blanched for late fall and winter use. This is easiest done by wrapping heavy paper about the plants, and holding it in place with rubber bands. The roots should be taken up in the fall and buried in the cellar or forced in earth. They may also be set out in trenches next spring and quickly forced into growth.

We usually sow parsnips and salsify at the same time we sow the early beets. A little farther south this work should be delayed until the last of May. Both of these vegetables should be left out over winter, and they are much better than when stored in the cellar. From the time the frost comes out of the ground until the middle of May, parsnips and salsify are our freshest garden products. At the time we plant these we also sow a row or two of Hamburg parsley, but this must be taken up and stored in earth or some moist material in the cellar. It will not stand the winter outside. Perhaps, with proper protection, even this could be left outside. The roots resemble small parsnips, but they have the flavor of parsley.

GARDEN FERTILIZERS

Nitrate of soda is one of the best of garden fertilizers, especially for the root crops. This season, however, it is not possible to get much of this material. Some dealers whom we have consulted have not been able to get it at all this year, hence most gardeners will have to depend upon something else. Some of the commercial fertilizers are also deficient in the elements particularly needed by vegetables. However, it is probable that they will prove of some help in starting along the garden crops, and many of us will be obliged to use them to a certain extent.

Those who have a supply of hen manure should use it on the garden this year. We have cleaned out all the henhouses and pens, and put the material in a large pile. With it also, we have mixed the scrapings of the barnyard and a few loads of leaf mould, hauled up from the woodlot. These ingredients were placed in alternate layers and the mass allowed to heat. When this had occurred, the springtooth harrow was used to mix the materials. It was then shovelled into a heap and the heating process allowed again. We expect to work this over two or three times more, and then use it as a top dressing around the tomato plants, also as a hill manure for the main crop of sweet corn, the melons, squashes and cucumbers. It will also be used around the cabbage and cauliflower plants in late summer. The fermenting processes which have taken place, help to make the plantfoods of such composts quickly available.

EARLY CABBAGE

Begin cultivating the early cabbage at once, and keep up the work regularly. This is what gives the early crop. If there is time to do it, cultivate every day, and note how rapidly the plants develop. When this is done there will seldom be any trouble with insect pests.

HARDENING PLANTS

Tomato plants should be hardened off this month, but for the main crop, it is not necessary to set them in the ground until the first of June. We usually set some of the earlier ones in May, but frequently they have to be protected in some way from the late frosts. Endeavor to get the plants well grown, with sturdy blue stems, before they are put out. Eggplant cannot be hardened off, but it should be kept

growing, and the leaves should be as large as a man's hand when the plants are set in the ground. Never put them outside until June. Pepper plants will stand more than eggplants, but as a rule they should not be set in the ground until June.

LIQUID MANURE

If one desires to grow prize vegetables, liquid manure will help materially in the process. While this requires considerable work, it will often pay in the end. Some farmers have their dairy barns so equipped that they are able to save the liquids. Where this is done it will not require much additional labor to distribute a certain quantity of the liquid fertilizer over the garden. It should never be applied directly to the plants in full strength. Rather it should be diluted with water before being applied. Equal quantities of water and liquid from the tank will be fully as strong as the garden plants will stand.

It is not very difficult to make liquid manure, suitable to apply to plants that are desired to push in growth. Fill a barrel half full with fresh barnyard manure. Add water until the barrel will hold no more. Cover this and allow it to stand for a week. Mix a quart of the liquid with a pail of water and use this to water the plants. Cabbages and cauliflowers, also plants of Brussels sprouts, tomato, pepper, eggplant, melons, squashes and cucumbers respond quickly to such treatment. The liquid should be applied in the morning or evening, never during bright sunshine.

Liquid manure can be assimilated by the plants much quicker than solids. Water is required to make the elements soluble. When this is applied directly with the plantfood, the material becomes immediately available, and the result is quick development. To stimulate the cabbage plants, and also to get rid of the cabbage worms, add a teaspoonful of saltpetre to a large pail of water and sprinkle plants frequently.

SALAD PLANTS

When salad plants are mentioned, one naturally thinks of lettuce. Of course this is the best and most universally used, but every garden ought to have a variety. Every spring we plant in the hotbed seed of May King and Wayahead (the latter a new variety not yet very well known), and take up part of the plants and set them in the garden in early May. By this method we have lettuce before the first of May and by the latter part of the month the transplanted plants have grown into real heads. We also sow seed in the ground as soon as the soil is workable in order to provide for a succession. Grand Rapids is our favorite loose-leaf variety. We also plant Icebury, Deacon and Salamander, the last named because it withstands the heat of summer better than most varieties. For fall use we make a planting in midsummer. This gives fine heads until heavy frosts come on. We have also found the Cos varieties of lettuce well worth planting.

Endive, when properly grown and blanched, is an excellent salad plant. Boiled like spinach it also makes fine

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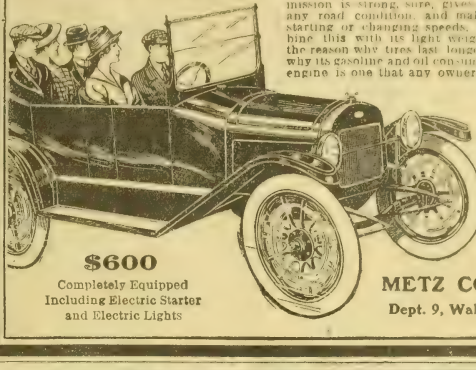

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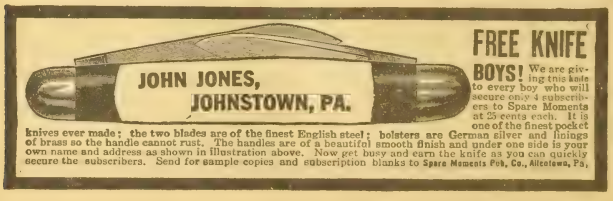

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greens. It is grown principally for fall and winter use. For this purpose it should be sown fairly early. Sow the seed in rows rather thinly, and afterward pull out surplus plants until they stand eight inches apart. When they are well grown, draw the leaves together and tie loosely with twine. This causes the tender leaves in the center of the head to blanch to a snowy whiteness. White Curled and White Fringed are good varieties to plant. Seed planted now will produce salads for use in August, while later plantings will continue the succession. Plants may also be taken up late in the fall and blanched in the cellar.

BRIEF GARDEN NOTES

Do not forget to help the good wife prepare her lawn and garden beds for the flowering plants. Flowers about the home add much to its attractiveness.

Cut out the dead branches in the shrubbery, but do not prune the spring-flowering bushes until after they are done blossoming. Shrubs that bloom in late summer may be cut back to induce new growth.

Watch the plants in the hotbed and window box to see that they are not attacked by the "damping off" fungus. Keep the soil stirred about the plants, and do not add too much water.

Prepare a fine seedbed, and sow seed of Golden Self-Blanching and White Plume celery. This is quite early enough for the main crop.

Stringless Green-Pod is one of the best beans to plant for snaps. Plant at intervals of two weeks until the first of July, beginning early in May.

If you wish to raise onion sets for next year, make a broad furrow and scatter the seed rather thickly, then cover lightly. This method usually produces fine solid bulbs of about one-half inch in diameter.

Do not cut seed potatoes and allow them to remain in the sun or exposed to the air for several hours before planting. Get them into the ground as quickly as possible after cutting.

STOP THOSE GULLIES

Small gullies that have started in the field should be stopped by filling them with straw or similar material. If the gully is large it is advisable to plow in soil on top of this material and sow to oats or later to sorghum so that the crop will come up thick and form a strong root mass to bind the soil together. The proper use of debris for filling and rank growing plants for holding the soil will stop most washes entirely. Eternal vigilance, however, is necessary for complete success.—M. F. Miller.

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By L. H. Cobb

I WANTED to begin with bees several years before I did, but I hardly knew how to get started. There are many other boys just like me. They would like to have a colony or two of bees, but they know nothing about taking care of them, and they do not make the attempt. At last I bought a swarm in a hive, paying five dollars for it, and I was embarked. It took me a year to find the queen, and almost as long to get so I could handle them quietly and positively, and avoid crushing bees in putting back the frames and other manipulations I attempted. At last I could handle them without much excitement, and often took out the frames on nice days without any protection for my hands, and without using smoke, and yet escaped stings.

The first thing for the beginner to learn is to be quiet and gentle in handling anything about bees. If you act nervous, strike at the bees that fly around your head, drop frames, push them down into the hive in a hurry and crush bees—any other quick, nervous act—and you will be apt to hear from them. But if you go about the work as tho there wasn't a bee in a mile, and pay no attention to the bees that fly around near you, the chances are you will not be molested. Always wear a veil, and gloves with the ends of the fingers out, and use a little smoke at first, for this will give you confidence, which is as much protection to you as the veil and gloves.

I have worked for an hour taking honey from a "mad" colony, with hundred of bees trying to get at my face, and have escaped being stung except a light sting or two on the fingers. A good veil protects the face, and stings anywhere else are of no real account. Bee stings are bugaboos to many people, but they scare much more than they hurt. I would go just as far to escape a mosquito bite as I would a bee sting, and I would take several mosquito bites for a pound of honey. I have taken dozens of mosquito bites for the doubtful pleasure of sitting on the banks of a creek watching a bobber that didn't bob. Haven't you done the same? Then don't run from a few bee stings.

Start in with a single colony, and get Italian bees, if you can, for they are more gentle, and will defend their hives against robbers and moths better than the blacks. Most beekeepers have only the Italians now, but thruout the country there are many of the common black bees. If you cannot get a colony of Italians, you can keep the blacks until you can get an Italian queen for them after you have learned how to work with them. An Italian queen will change a colony to full Italian bees in a few months. Three months after she begins to lay every bee in the hive will be her daughters, except the drones, of course, which are her sons.

It is best to have one extra hive complete to put your first swarm in when they come out, and two supers, with extracting frames extra, for the bees to store honey in when they gather a surplus. Then, with a smoker, a veil, a pair of gloves with long sleeves and the ends of the fingers cut off up to the first joint, your equipment is complete, except that I would advise you to get a good book on beekeeping for beginners, and I have no doubt the editor can suggest one and tell you the price he would supply it for. A good beekeeping journal will help to keep up your interest and open up new fields for you.

I would advise you to use extracting frames and supers at first, for they are easier to work with, and will be filled with honey when sections would not. You can cut comb honey out of these frames as well as out of sections, and if you want to sell it to neighbors it will sell just as well, and you can give a full pound for a pound, and few sections hold a pound.

These frames are just like the large frames in the hive, except they are only half as deep, and they fit in supers half as tall as hives. This makes them light enough to handle when full of honey. Put a super on as soon as a colony of bees seal the honey in the frames in the hive, and you can tell this by its becoming white where they have put a white cap over the cells. Look down between the frames from the top, and you can easily tell. When it begins to be capped put the super over the hive. When this super is about half full of honey raise it up and put another super filled with frames under it, and keep lifting up the supers and putting new ones under as the last one put under gets about half full.

They will put some in the lower super before they will finish the upper one completely, but not very much, altho the two supers to work on gives the bees more chance to work, and saves honey. After you learn all about it you can then get some sections, if you want to try them.

SHADE AND SUNSHINE FOR BEES

A proper proportion of shade and sunshine can add materially to the honey supply. Sunshine, when sunshine can warm them up in the morning and evening, and shade, when they need to be kept cool in the middle of the day, is the principle to be kept in mind. The early morning sun shining on the hives will start them to flying on cool mornings an hour or more before they will fly if in the shade, and they will fly correspondingly later at night if the sun can shine on the hives then.

The ideal place for a colony is under a tree, on the south side, far enough under to be shaded in the middle of the day, from about the middle of May, altho it may be necessary to push them a little further back in the fall, as the sun will get lower before cool

weather comes than it is in May. If the tree growth is good, that will generally add enough shade to overcome this difficulty. Under the average tree three hives can be placed side by side, with a little space between them, and this number is the most satisfactory, as it helps the bees to locate their hives. More than three without a wider space between them will confuse them on the inside hives. Most beekeepers arrange all their hives in groups of three because of this.

While the bees need shade in the middle of the day, they need good air more than shade, and if I had to do without either I would do without the shade. To put hives in thickets where the air is shut out, will make them hotter than in the sun, out on a hill, in the open. Still, summer sun should be kept off the hives in the middle of the day, even if only a board platform, large enough to extend out a foot in front and to each side, is placed on top of them and weighted down by a rock.

Late in the summer and early in the spring the hives should have the full sun, for they have need of all the heat they can get to keep up the temperature when the field bees are in the fields. When the sun becomes hot they must be protected, if the sun is very strong, or the combs will melt down, and the honey will smother the bees. A wide entrance will help, for it admits of better ventilation, and yet in extremely hot weather it will not be enough.

One set of hives I used had telescope covers, with a super cover under it. In the summer I placed a brick on top of the super cover, and then put on the telescope cover, and the air space around the sides and over the hive gave plenty of protection. These hives can be left out in the sun without danger of melting, but it will melt the workman to go thru them on hot July or August days.

I am very partial to full telescope covers, for they make such good protection in the winter by simply unfolding newspapers and placing over the hives, letting them come well down on all sides, and putting the covers over them. Full telescopes will come down within a few inches of the bottom board on a dovetailed hive, and in summer, with a brick on top of the super cover, they furnish the needed shade, answering a double purpose, taking the place of both shade and winter covers.

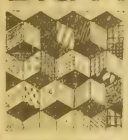
Never restrict the bees to a very small opening in summer. The entrance should be one-half inch or more in height and extend fully across the hive, with a provision for shutting down to about three-eighths of an inch by three inches for the winter.

Young Draper, who was considerable of a celebrity, was invited to a dinner given by a society woman one evening, and after the dinner there was some singing by a celebrated vocalist. A little later, the hostess introduced the young man to a woman of great means who was endeavoring to push her way into society.

"Did you not enjoy the beautiful singing in the dining-hall?" queried the young man, in whose ears the beauty of the singing was still ringing, "And the acoustics were perfect, were they not?"

"Oh, yes, indeed, Mr. Draper," replied the woman, enthusiastically, "those acoustics were certainly the very best I ever ate."

BIG PACKAGE SILK REMNANTS



For Quilts—Sofa Pillows—Powder Bags—and Other Articles

GIVEN [illegible] "Crazy Quilt" making [illegible] please you. Enough for a crazy quilt or [illegible] shaped and pretty colored goods [illegible] were never so bright and pretty [illegible] thousands of pieces from the factories [illegible] our friends. Haven't you found it [illegible] pillows, quilts, etc? We can help you [illegible] sorted silks all pieces are carefully [illegible] art and needlework. We also give you **36 PRIZE-WINNING QUILT-BLOCK PATTERNS FREE.**

These quilt block designs were selected from more than 500 patterns in a big Prize Winning Contest. Some of these are real historic designs, others are entirely new, but all of them are good and will appeal to the lover of beautiful and artistic quilts.

WE WILL SEND YOU FREE a big package of silk remnants and the 36 prize winning quilt block designs if you will send us 25 cents in silver or stamps for a one year subscription to FARM NEWS. Send your order quick. Today. Get the pick. Address. **FARM NEWS Silk Dept. S K** Springfield, Ohio

Post Card Camera FREE

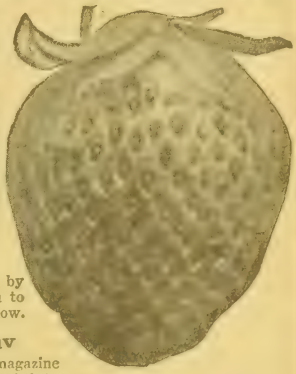
Takes and Makes Finished Pictures Instantly

Push the button, drop card in developer and in one minute you have a complete finished picture on a post card, size 2½x5½ inches. Can take any picture you want of landscapes, water scenes, people, etc., the same as with ordinary camera; but no expense for films or plates, printing, developing, etc. Most wonderful discovery of the age. Results amazing. Take pictures for your own amusement on profit. Everbody wants their photo on a pose card. Big money maker.

SEND NO MONEY—JUST YOUR NAME and we will send you 20 of our New Art Pictures to dispose of on our special 25c offer. Send us the $5 you collect and for your trouble we will send you free, this Marvelous Post Card Camera just as described and full outfit for taking pictures at once. We guarantee satisfaction. Write today.

M. O. SEITZ, Dept. 5C43 Chicago

Everbearing Strawberries



Just think of having fine, ripe luscious strawberries on your table every day from spring-time clear up until frost in the fall.

The Everbearing Strawberries are a pronounced success, and will be widely planted this season. They fruit the same year they are set out.

We give you 20 plants of Everbearing Strawberry in our great offer of

60 Plants FREE

The Fruit-Grower is the leading authority on strawberries and all other fruits. The handsome big issue of March 1st features Strawberries and Small Fruits. You should have a copy by all means. We make it easy for you to secure it the year round. Read offer below.

Let Us Send Them Today

In order to introduce this great magazine into more new homes we have concluded to make this exceptional offer. We will send without one cent of cost to you, all charges paid, 60 fine Strawberry plants, including 20 Everbearing, 20 medium season and 20 late season. These plants will be sent free, prepaid, when you send $1.00 for a year's subscription to The Fruit-Grower.

Send the coupon today, and we will start your subscription with our Small Fruits Number of March 1st, telling all about successful growing of Everbearing Strawberries and other fruits.

The 60 plants we send you free, will plant three rows 40 feet long—enough to supply the whole family with fine berries all through the season from June until frost. Start a bed this spring sure. Send the coupon today.

THE FRUIT-GROWER, ST. JOSEPH, MISSOURI

STRAWBERRY PLANT COUPON.

The Fruit-Grower, Box N-2, St. Joseph, Mo.

Enclosed find $1.00 for a year's subscription to The Fruit-Grower. You are to send me free, prepaid, 60 Strawberry plants as advertised, including 20 Everbearing.

Name..... Address.....

Town..... State.....

Please send names of three friends interested in fruit.

Fool The Batter, Boys!

Baseball Curver Free

Boys, you can simply make monkeys of the other boys with this curver. You can be as big a hero in your town as any big league pitcher. The curver which is worn on the hand enables the pitcher to give the ball a rapid whirling motion thus causing a wide curve. It is so small that the batter cannot see it and they all wonder where those AWFUL CURVES come from. You can fan them out as fast as they come to bat. A complete set of directions for throwing curves with each curver.

OUR OFFER: We are giving these baseball curvers away free as a means of introducing our great farm and family magazine, The Valley Farmer. Send us 10c for a three months' subscription and upon receipt of same we will send you one of the curvers, by return mail free and postpaid. Address

VALLEY FARMER, Dept. C14, Topeka, Kansas

Get a 1916 Model
$60 Bicycle FREE

We want to give you ENTIRELY FREE the latest 1916 Model, $60.00 Bicycle. Has new, motorcycle type, spring saddle, mud guards, coaster brake and the very best puncture-proof tires. All of its parts are made of the best material obtainable and you can have your choice of either ladies' or gents' model.

You Can Win It

All we ask you to do is to send us your name and address on the coupon below and we will write and tell you how you can easily become the winner of this handsome $60.00 Bicycle. It will be the finest present you ever received for so little work.

At the same time you are earning this valuable bicycle we will give you dozens of other handsome prizes. You cannot help but win if you will send me your name and address today. By mailing the coupon below, we will give you 3000 votes toward winning the $60.00 Bicycle.

HURRY—WRITE QUICK and let us tell you how you can be the winner of the Bicycle and many other elegant prizes. Write today.

FARM NEWS Bicycle Club
Springfield, Ohio

Don't let anyone tell you that you can't win—you CAN WIN and you should win if you will ACT AT ONCE.

MAIL COUPON QUICK

Good For 3,000 Votes

Farm News Bicycle Club,
Springfield, Ohio.

Gentlemen:—

Credit me with 3000 votes toward winning the $60.00 Bicycle and tell me all about your easy plan for giving away free presents.

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Postoffice .....

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St. or Box No. .....

R. F. D. .....

The Love Affair of Bruce Simpson and His Return to His Home Town

By Horace Bricelyn

EVERY man, woman and child knew that Bruce was "going to the city." His friends had been having "stag" parties, he had been given a farewell by his two lodge organizations, and Madge Everett, his sweetheart, had given two "evenings" to their hosts of friends.

Bruce had come from a thrifty family, but none of them had laid by a lot of money. Both of his brothers were holding "steady jobs," but not doing big things, so Bruce decided that the city held the opportunities.

The day of leaving came, and then the evening. The sleeper berth had been reserved and everything was in readiness. As train time drew nearer, Bruce bid the folks at home a fond good-bye, and went to Madge's to be with her alone.

Madge and Bruce had been sweethearts for several years—each now realized that the time to take life seriously had arrived. They had walked together hour after hour, had gone down thru the grove and watched the singing brooklet play past, as they planned their future. Their love had grown gradually to a strong, permanent bond, and this love was the cause of Bruce's leaving.

He had saved his money without being stingy—he had a very nice "nest egg," but his love was so great that he saw at once that he could never be content with so meager an income and so small a start; so he told Madge the time to do the experimenting was now. If the city had the key to the future he knew he could soon find it and establish himself, and return for Madge—if not, she would not have to suffer hardship—he loved her too dearly to make a foolish step.

When they had their last hour alone, Madge had nestled close in his arms and looked with her big, clear, brown eyes into his—and wished him a fond "God speed." She sent him away contented to make the "try."

Every one was at the station when the train arrived—Bruce, his cheeks flushed, Madge proud of his friends and their "well wishes" when the train left.

The next morning the train pulled into the depot after nearly an hour's ride thru the outlying districts of the city. Thousands of people were rushing through the station and trains. The streets were crowded with all kinds of people, men, women and children.

Bruce found a clean, respectable lodging house and started for his "future." He thought he would get in a business with a future—learn the business from the bottom up, and then get fat money made by the big men.

He tramped three days, heard the same "no men needed," until he finally found a place at "hard work" at $2.25 a day, and took it.

He wrote Madge daily, just good, sensible letters, but of course full of love and wishing he were by her side.

At the end of six months he was still at $2.25 a day and very little hope. His foreman was only getting $25.00 a week and had been in the place for years.

Bruce's experience on the farm and in the home town had taught him not to stick to a bad job, so he began to look around.

He stood on the principal street the following Sunday and counted 512 automobiles in one hour—he saw that every one had prosperous people in them, he wished for one for himself and Madge—then a big thought came to him—the automobile business is the place to make the money. The next morning he went to the factory and gave up his job. He then went down on "Auto Row" and picked the biggest garage and went in to get a job. The owner told him they needed practical men and gave him a job. He was so busy and interested the first few days, he did not realize that he was getting the same pay as before and doing just as hard work, and often working long hours. Then his mind turned to the cause of his low pay. The men in charge of his department were getting a big salary—every man at the head of a department got big pay.

One day, while passing out to go to lunch, he stopped to look at a new car that had just driven in, and he was surprised to hear how much the owner knew about automobiles. Then the foreman came up, and he knew a lot, too. The thought came to Bruce that he needed training.

His first thought was of college—but it was out of the question, four years and the heavy expense, and come out with only mathematics. So he reasoned that he would go to Detroit, the heart of the Automobile Industry, and learn the business there.

That night he wrote Madge, wrote until way after midnight—renewed his love vows, told of his new plan, and left the next day.

The 44 auto factories and the hundreds of "part" factories looked good to him, and he recognized the names of many as he pulled into Detroit—Chalmers, Detroiter, Dodge, Packard—they all were familiar. But when he applied for work he again got low wages, for they wanted trained men. That night he felt his first big discouragement. After reading hundreds of help wanted advertisements in the papers he turned to a magazine and found that there was a place to "learn the automobile business" in Detroit. The next day he went out to 11 Selden Avenue and enrolled. He had been wise enough not to use his "nest egg," but had denied himself pleasures so he could live inside of his income.

He knew that with practical training he could get the big money. And he could finish his course with six to ten weeks.

He had not been a bright student in his early school days at home, but this school had such practical instructors, and such complete equipment, that he could learn readily, as hundreds of others were doing.

He soon became acquainted with his classmates, and they were getting letters from other students, who had left and gone to all parts of the country to take big positions.

He wrote Madge of the future—he saw big things—and sure enough, in due course, he got his diploma and went home.

He did not tell any one he was going home—he wanted to see the sparkle of love in his sweetheart's eyes—he wanted to surprise his father and mother—and he was not disappointed—every one was glad to see him again. Madge, after showering him with kisses, held him off at arms' length. She saw that he was thinner and his cheeks had lost a little of their former color; but her keen eyes also saw the determination in his, she saw that he had balance and good judgment.

Next day he rented Hob's old cement livery barn—put out his sign, BRUCE SIMPSON GARAGE, and before his shop was cleaned up he had his first job—a tourist car needed a good going over, and when the car owner saw Bruce's diploma on the wall, he gave Bruce full charge of his high-priced machine with the remark that "any man who owns one of those diplomas knows his business."

That led to a prosperous business repairing automobiles, and later selling them. Madge's friends had a nice party to announce her engagement, and the wedding followed soon. So Bruce's trip to the city resulted in happiness and good fortune, altho his real "future" turned out to be back in his own home town.

PLANT CORN ACROSS THE SLOPE

On sloping corn land try planting and cultivating across the slope where possible in order to reduce soil-washing. When corn is drilled with the slope furrows are made which are sure to increase washing. While checked corn is usually preferred by the best farmers on land that is not subject to washing, it is usually more important on rolling land to cultivate in one direction only, and that around the slope. The greatest damage is done on steep slopes because the faster the flow of water the greater the amount of soil it will carry away. If you double the rate of flow of water, it will more than double the amount of soil removed.

A more perfect application of the principle of planting across the slope is found in contour farming, which is more fully explained in Circular 78 entitled The Control of Soil Washing, recently issued by the Missouri Agricultural Experiment Station at Columbia. —F. F. Miller.

ADVOCATES USE OF 3-12 FERTILIZER

"Farmers should not discontinue the use of fertilizers because of their increased cost," says M. A. Bachtell, soil expert of the Agricultural Extension Dept., Ohio State University. He states that potash may be omitted because of its high price, but that ammonia and acid phosphate in the form of a 3-12 mixture at the rate of 250 lbs. per acre will prove profitable on corn, potatoes, soybeans and other spring sown crops. If the soil has received manure or has had a sod plowed under within the past year, the ammonia may be omitted for spring use. At the Ohio Experiment Station acid phosphate has returned as much as $100 per ton in value of increased crops.

I Am Making Money for Men – Are You One of Them?

I ran a full page advertisement in this paper February. I was looking for men—for money-makers. It was on the 2nd cover. Did you see it? Did you answer?

Many hundreds of men answered and are now working with me. Some of them are going to be big money-makers. Some will fail. That's natural. The big thing for you to think of is that I want to hear from you. I've got some straight, money-making talk for you and I want to get it off my chest.

The Chance Is There

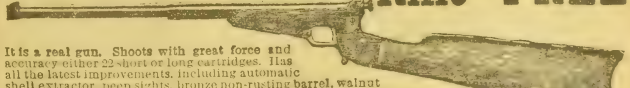
It Is Alive Now—Don't Wait—Write

I want you to work with me in the selling of a marvelous tool. That doesn't sound so wonderful, eh? That's because you don't know the story. You don't know how just common everyday men like you and me are making $25 to $50 a day.

That's the big story. The tool looks simple enough in the picture, but it's a single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter and alligator wrench, as well as a lot of other things. Farmers, teamsters, auto owners, mechanics, contractors and builders buy it on sight. But never mind that now. You write. I'll tell you the big story of profits. Don't make a fuss about it. Just send me your name and address on a post card. Address

P. J. HARRAH, President
32 Main St.
The Harrah Manufacturing Co. Bloomfield, Indiana

1916 Model **22 Cal. Hunting Rifle FREE**



It is a real gun. Shoots with great force and accuracy either 22-short or long cartridges. Has all the latest improvements, including automatic shell extractor, peep sights, bronze non-rusting barrel, walnut stock and grip. The metal parts are of blue steel. Handsomely and durably made.

SEND NO MONEY only your name and address and I will tell you how to earn this dandy gun for a little, easy effort. It will be sent to you absolutely FREE and all carrying charges prepaid. Write today—send your name and address at once.

TYSON JARVIS, Rifle Man Dept. F Springfield, Ohio

Complete Instruction Book In CROCHET, TATTING, SMOCKING FREE

This book contains 70 pages each 7½ x 10½ inches, printed on heavy enameled paper. There are 48 illustrations of designs for yokes, edgings, luncheon sets, handkerchiefs, babywear, centerpieces, scarfs, bags, etc. Full detailed instructions are given for working designs. Amount and kind of material and tools are mentioned, making it a handbook for beginners as well as for those more experienced. The Household Guest is a monthly story and home paper, filled with short and long stories, social and fancy work departments and prize jokes. Enclose 10c to pay for a twelve months' new or renewal subscription for yourself or a friend, we will send a copy of this beautiful Instructor free and prepaid at once. Or, send 12c for the book alone.
Household Guest, Crochet Dep., 660 N. LaSalle, Chicago

FOUR FERNS GIVEN

We have obtained a special concession from **Farm Journal**, the standard agricultural magazine of America, for them to accept one-year subscriptions from new readers through us. **Farm Journal** is for the whole farm family, the farmer, his wife and children. **Household Guest** is a story, home and fashion magazine. The four ferns will be selected from the following varieties: Boston, Whitman, Ostrich Plume, Elegantessima, Scottii, Sprengeri, Piersonii, Lace Fern. Nothing is more beautiful for the home than ferns. We send Farm Journal one year, Household Guest one year, and the four ferns for only 50c., prepaid by parcels post. Send all orders to Household Guest, Dept. FJF 15, 660 N. LaSalle St., Chicago

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SEND NO MONEY but write today for our big 1916 catalog of *"Ranger"* Bicycles, Tires and Sundries at prices *so low they will astonish you.* Also particulars of our great new offer to deliver you a *Ranger* Bicycle on one month's free trial without a cent expense to you.

BOYS you can make money taking orders for bicycles, tires, lamps, sundries, etc. from our big handsome catalog. It's free. It contains "combination offers" for re-fitting your old bicycle like new at very low cost. Also much useful bicycle information. Send for it.

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FREE This Gold Plated Pendant (set with two sparkling simulitude Diamonds) and regular Length Chain and this lovely Gold Plated Elite Bracelet (opens to fit wrist) and these 6 guaranteed Gold Plated Rings absolutely Free to anyone who sells only 12 pieces of Jewelry at 10c each and sends us the $1.20. We trust you and take back all not sold. Address

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Get This Guaranteed, Watch FREE

I will give you this guaranteed, pure simulated gold watch as shown above for doing a little advertising for me among your neighbors and friends in your spare time.

The watch is 16 size, stem wind and stem set; has handsomely engraved back; adjusted to both heat and cold; patent lever escapement; dust proof case and is guaranteed by myself and the makers to be a perfect time-keeper. With the proper care and usedge it will last and give entire satisfaction for years.

Send No Money

Just send me your full name and address today and I will write you all about my simple and easy plan for securing this fine watch. You will wonder how I can give away such splendid time-keepers without any money, but I am going to make you a present of it. Don't wait—don't delay, but send me your name and address at once.

Address TYSON JARVIS
203 Washington St., Springfield, Ohio

20c ARMY AND NAVY SIZE

EXACT COPY

FOR BOY SCOUTS and others. Causes big excitement, harmless. Exact size, regulation model, full 6-inch barrel. Sent free and prepaid for 2 dimes (20c) to pay for 6 months subscription to The FAMILY. Satisfaction guaranteed. Order today.

THE FAMILY, Army Dept. SPRINGFIELD, OHIO

THE STORY OF THE LITTLE DRONE

Idlewings fox-trotted across the window sill and back again. Then he cut a few angry circles.

"This is dreadful, just dreadful!" he buzzed. "To think of a handsome bee like myself turned out of his home and winter coming on. Where will I find flowers now, tell me that," and he threw one furry little leg over the back of his head and rubbed it vigorously. "My wings and pouches, but I am hungry."

"Here, you cross little bee," said the lady. "I believe you are hungry. Here is a drop of honey for you," and the children crowded about to watch him eat it.

Did he eat it? Yes, he did. He waded into it, really and truly, up to his thighs, and he ate and ate until he could eat no more. Not until then did he think of how he was to get out, and when he tried to walk out as he had walked in, the honey stuck fast. How he did mumble and grumble, and life his wings hoping to free himself, but no; there he stayed right in the middle of his dinner instead of having his dinner in the middle of him.

The lady laughed and the children laughed, but the little brown bee did not laugh. Instead he scolded more and more until the lady, taking pity on him, lifted him out of the sticky mass and set him behind the stove, on the carpet.

"This is better," thought Idlewings, "and I do believe I see roses and flowers everywhere." Now the carpet had a deep, rich nap, and when Idlewings tried to wade over his delightful flower-garden, the woolly fuzz stuck to his be-daubed legs until it was like climbing over tree tops. He fumed, and buzzed and roared like a small motor.

"O, mama," cried the children, "it's the funny little bee again." The lady gathered up Idlewings once more, and carrying him outside, laid him carefully on the porch railing.

And what happened then? I shudder to tell you. A belated red bird, who had neglected to accompany the bird band to the south, heard the angry whirring of the little brown bee, and swooped down quickly from the walnut tree. When he flew away again Idlewings was nowhere to be seen. He had found warm winter quarters at last.

POLLY AND HER GOAT

Polly had a neat little goat,
  A goat with silky hair;
It loved to eat the strangest things,
  But Polly didn't care.

The goat was much like Mary's lamb,
  The one with fleece of snow,
For everywhere that Polly went
  The goat was bound to go.

One day Miss Polly sallied forth,
  A-walking through the town;
She wanted all the folks to see
  Her polka-dotted gown.

And as she tripped her dainty way
  Along the village street,
The fragrant posies that she bore
  Were not a bit more sweet.

And lo! there followed close behind—
  Of course it wasn't right—
The little goat with silky hair
  And wondrous appetite.

They passed a garden by the way,
  Wide open was the gate;
The goat would fain have gone within,
  But Polly couldn't wait.

A little farther down the street
  A dump of rubbish lay;
The goat would fain have feasted there,
  But Polly couldn't stay.

And then the little breezes blew
  Her ribbons, flying free;
The goat beheld them, and it thought,
  "This is the chance for me!"

Straightway it seized them and began
  To chew and chew and chew;
But Polly blithely tripped along,
  And never, never knew.

And when she saw them smile at her,
  The people of the town,
She thought, "How much they all admire
  My polka-dotted gown!"

—John Clair Minot in The Youth's Companion.

WHEN THE BIRDS NEED HELP

The birds that braved the winter's rigors in New England were hard pressed during the month of February and part of March. In scores of places we know of boys and girls who, in ingenious ways, placed food where the birds could readily find it and we know that valuable life was saved. One of the many successful ways of feeding was described to us by a kind-hearted lady in Quincy, Massachusetts, who wrote:

I sincerely wish that you could have come to the birds' tree party on our lawn. My little grandson, two and a half years old, had his Christmas tree left standing in the dining-room for one month, turning the electricity on and off for little friends who enjoyed seeing the colored lights shining thru bulbs, imitation birds, and fruit, and the tree filled with many other beautiful ornaments.

After the tree was dismantled, we had it fastened outside for the winter birds, the base strongly tied to the top bar of the fence to protect the birds from cats and dogs, while the top was securely tied to a branch of a large spreading fir-tree, a row of which stretched along behind the fence. Then we tied solid cakes of suet, about two inches square, to the branches of the tree. Once in a while a flock of chickadees would come to eat, and sometimes blue jays or downy woodpeckers. One day a large flock of juncos came, and then for a long time we saw no birds.

But one day in February my daughter called, "Come quick, mother, and see the birds! and never in my life have I seen such a sight in the dead of winter!" As she knows, intimately, nearly all the birds we see about here, I hurried to the window and there, in the midst of an old-fashioned New England snow-storm, I beheld a colony of sparrows and juncos feeding hungrily together from the crumbs and scraps which my daughter had strewn upon the ground. In order to get some idea of the number I counted twice over

between seventy-five and eighty birds feeding under the tree, while on the fence and on the snow-laden limbs of the fir trees there were certainly twenty-five more coming and going and flitting about—chickadees, downy woodpeckers and, perched on one limb as if he were master of ceremonies, a big, fat blue jay who had evidently eaten all he could.

I gazed and gazed at this beautiful sight until darkness shut it out. It was remarkable to see so many of the deserving, hungry little mendicants deriving so much benefit from the feast that we spread for them and we have felt well repaid for the little trouble we took to help them in their dire extremity.

ST. BERNARD DOGS AT THE FRONT

"The Red Cross St. Bernard dogs are a great help to us in finding the wounded, and it is remarkable how they know the dead from the unconscious," says a Nursing Sister with the Dardanells force in a letter in the Spectator. "When they find a living man they give a low mournful howl to fetch us. We don't let them out till the battle is over, and sometimes we can't tell exactly where they have found the man, so when no one goes to them they come to us carrying the man's cap, which lets us know whether it is a Turk or a Britisher, and they led us to the very spot."

"I hear," said Louis, as he chanced to meet his cousin, Winifred, one morning, "that you have refused young Fox."

"Yes, I did," replied the girl, "I don't consider he is my equal by any means."

"Oh, come!" said Louis, "Why should you refuse him on account of his not being your equal? Don't you remember your grandfather signed the Declaration of Independence? Don't you believe that all men are born equal?"

"Oh, yes, of course I do," said Winifred, "but some men deteriorate after birth, you know."

Mrs. Davey, a woman who did much charitable work, met a neglected-looking little boy on the street one day, and stopped to speak with him.

"Now, my little man," said the good woman, smiling, "where's your mother today?"

"Doin' a washin', mum," was the reply, "so's she kin buy some bread."

"Where's your father?" queried Mrs. Davey, "at work too?"

"Nope," replied the urchin, "He's in the woodshed prayin' fer meat and potatoes."

Young Dalton had written a play and finally, through the influence of friends, secured an interview with Mr. Eckley, the manager. After the manager had read the play, he gazed at the young man for a few moments, and then said:

"I've got a new idea for this melodrama of yours that ought to make a big hit."

"What is it?" asked Dalton, brightening at the manager's interest.

"Well, my idea," said the manager, slowly, "is to introduce a cyclone in the first act that will kill all the actors."

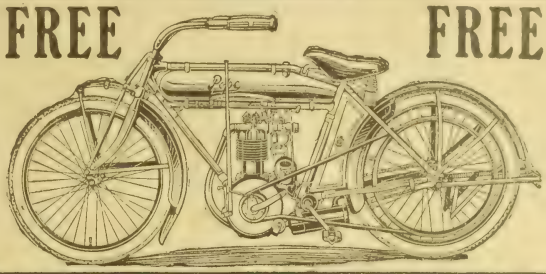
Mr. Woodard was very much infatuated with Marion Jewett. One evening, when he called, her little brother entertained him until the young woman made her appearance.

"I should think my sister would a good deal rather have you call on her than Mr. Heizer," said the boy, as he looked at the caller.

"Indeed," replied the delighted admirer, "Why so?"

"Why," said the boy, "'cause he always musses up her hair so."

FREE FREE



To Be Given Away

The $200.00 Pope Motorcycle shown above is going to be given away absolutely FREE to the person who makes just a little effort to get it. This is the greatest opportunity you ever heard of for owning the very latest, 1916 Model Motorcycle. It has all the latest improvements—it is speedy, reliable and has stood the most severe tests for a number of years.

It is standing here on the floor now—a brand new machine ready to be sent to some one ABSOLUTELY FREE and PREPAID. Do you want it? It will not cost you one cent—all we ask in return for this elegant machine is that you will do us a little favor now and then during your spare time.

I have given away many Motorcycles to my friends all over the country—this is YOUR chance to own one without a penny of cost.

Many Other Fine Prizes

The $200.00 Motorcycle is not the only present I will give you, for I have dozens of other handsome prizes that will be yours almost for the asking.

Watches, Base Ball Outfits, Cameras, Bicycles and many other prizes, too numerous to mention, will be given you without cost. You can't keep from winning if you will send me your name and address today. You will be handsomely paid for everything that you do.

After you have mailed the coupon and heard from me, you will agree that my plan for awarding Motorcycles and other grand prizes is the easiest of all. You will be surprised at what a simple matter it is to get most anything your heart desires.

Send Your Name and Address

Fill out the coupon below and mail it to me at once with your solution to the puzzle. The letters in the nine squares, when properly put together, spell three words. The first word has four letters, the second word has two letters and the third word has three letters. The words are mentioned in this advertisement. Send your solution to the puzzle with your name and address and we will tell you how to win the $200.00 Motorcycle and the many other handsome prizes.

Remember, you can't lose—it is EASY to WIN the Motorcycle and the many other dandy prizes if you will act promptly and mail the coupon at once. Don't wait—don't put it off, but write at once.

D. BRYDON, Mgr.
26 Wittenberg Ave.
Springfield, O.

Fill Out Coupon—or Write TO-DAY

A	S	E
Y	T	O
W	N	I

D. Brydon, Mgr.,
26 Wittenberg Ave.,
Springfield, Ohio.

Dear Sirs:—
The letters in the nine squares spell

.....

Please enter my name for consideration in awarding the $200.00 Motorcycle and the many other grand prizes.

Name .

Postoffice .

State .

St. or Box No. R. F. D.

Here's Your Chance

Win a $615.00 Automobile

MAIL THE COUPON TODAY

Given Absolutely Free

The above illustration is a picture of Mr. H. D. George, of North Carolina, and the Overland Automobile we just recently gave him. Did you read his enthusiastic letter? When Mr. George answered our advertisement he had little idea of winning a valuable Overland Automobile—but, when we wrote him all about our simple and easy plan for awarding Automobiles, he just couldn't help but win. We never even heard of him before until he sent in his name and address.

The 1916 Model, fully equipped Overland Automobile that we are going to give away will not cost the winner one cent—it will be sent absolutely FREE and all charges prepaid. All that we ask of you is to spend just a little of your spare time among your friends and neighbors.

Many Other Big Prizes

In addition to the Overland Automobile we will give dozens of other beautiful and useful prizes and cash rewards. If you could see this splendid array of presents that are given almost for the asking, we are sure you would not delay in sending in your name and address at once. You can't possibly lose—you have everything to gain and you are handsomely rewarded for everything that you do.

Remember, everything is free—the 1916 Model, $615.00 Overland is fully equipped with electric lights, electric starter, complete kit of tools and all that is necessary—there will be nothing at all for you to buy and EVERYTHING IS FREE.

HURRY—Send Your Name Today

Fill out the coupon below and send it to us together with your solution to the puzzle. The letters in the squares, when properly put together, spell three words. These words bring you good news. As soon as we have received your solution to the puzzle we will tell you how you can get the AUTOMOBILE Free.

I	W	
L	I	
I	W	
L	N	

Automobile Distributors, Dept. B-22
Springfield, Ohio.

Gentlemen:—

The nine letters in the square spell.

.....when put together. Write me the full particulars of your plan for giving away free Overland Automobiles and other grand prizes.

Name .....

Postoffice .....

State .....

St. or Box No.....R. F. D.....

Don't delay—send your solution to the puzzle today. YOU CAN WIN this elegant Automobile and the many other handsome prizes and cash rewards if you will act promptly and send us your name and address today. Hurry—write quick and find out about our easy plan for giving away free Automobiles. Address,

Automobile Distributors
Dept. B-22
Springfield, Ohio

Economical Pasturing

(Continued from Page 17)

the cows cannot get to it, by driving stakes around the ponds and putting up a few strands of wire or woven wire.

From experience and observation I find it pays to give some grain all thru the pasturing season, but when the grass is at its best very little grain is needed, only a handful or so, to encourage the cows into their stalls or place of milking. When the grass gets tough and dry, and the flies are very bad, the grain should be increased, and some pasture substitute used. To supplement the pasture, green feed of almost any kind will do. Corn, both dent and sweet, and sorghum and millet are very good, and their high yielding warrants an abundance of forage from a small plot of ground.

Cows to do their best work should be content, and annoying features should be kept out of the pasture. Colts will often torment cows by chasing and biting them, and where this is noticed they should be kept out, also bulls, as they are better by themselves than running with the cows. While the cows are on pasture the finest dairy products can be produced, for then the animals are clean and well nourished with good palatable food. We should therefore do our part in a sanitary job of milking. Milking cows in the pasture is no doubt the most sanitary way, but it is not at all convenient or practical in bad weather, and stabling is the best system.

MANURE SHED PREVENTS ENORMOUS WASTE

It has been carefully estimated that the value of farm manure wasted in the United States annually is $700,000,000. This amount would build a fleet of 100 dreadnoughts or pave 250,000 miles of highway each year. The wheat crop of 1912 was estimated at 730,000,000 bushels and allowing one dollar for every bushel of wheat for that year it is evident that the waste from manure approximately equals the value of our annual wheat crop. Dean Alfred Vivian of the College of Agriculture, Ohio State University, Columbus, points out that a manure shed on every farm would prevent the manure losses to a great extent. Such a structure need only to have a concrete floor and a covering which will prevent rains from leaching the manure as it does in the barnyard. It should be connected with the stable with a litter carrier. When the manure cannot be hauled directly to the fields its value will remain the same by storing. Manure handled in this manner has returned as high as $5 per ton in increased crop yields.

The School of Experience has many graduates, but they don't belong to a Greek letter fraternity.

It would be pretty hard to convince the man with a well-filled silo that its contents would produce disease in his stock.

Saw a load of corn come to town the other day, that two years ago wouldn't have been fed to a pensioned horse. And it was sold—not for the top price.

Will you try the new Grains, Feterita and Sudan Grass at our expense, with the Flower Garden, as shown above, thrown in for good measure? See our offer below.

Feterita, the new cereal. This new grain is proving itself to be of wonderful value in all parts of the country. It will grow and mature a big crop of grain in from 75 to 90 days time. One single seed will make a plant having from five to ten stalks and each stalk will carry a head of seed, the larger ones weighing about a pound each. These heads of grain are easily gathered and stored and have a variety of valuable uses. Crush the grains or cook them whole the same as wheat and you have a most delightful breakfast cereal. The kind that always makes the children call for more. Take the grain to a mill and have it ground into flour and it makes an excellent substitute for wheat flour. Probably of all of its uses Feterita has attracted more attention as a chicken food as the grains are just the right size and it has the chemical elements to make a perfectly balanced ration. A small patch will grow enough seed for a big flock of chickens and the stalks will make excellent fodder for the cow or horse.

We want to send you a package of seed large enough to plant a 2 rod square patch of ground. This will give you a chance to try it as a breakfast cereal, have some ground for flour and see how your chickens thrive on the balance. You will be sure to want to plant more of it another year. See our offer below.

Feterita

Sudan Grass

Sudan Grass. This wonderful new hay crop is succeeding in all parts of the country. It grows from seven to nine feet tall and stools out very thickly, a single seed producing a plant that will throw up from thirty to sixty stems. Sudan Grass does not lodge and go down after rain and wind storms as does millet and other grains. Horses, cattle and other stock like it and thrive on it in all stages, green or cured. A small patch will grow enough extra fine hay to provide for a horse and cow. The plant is an annual and dies root and branch in fall or after maturing a crop of seed. Usually makes from two to three cuttings of hay per season. Succeeds in dry season where most of other crops would be burned out.

We want to send you a package of Sudan Grass seed sufficient to plant a 2 rod square patch of ground. From this trial patch you can raise enough seed to plant a large acreage another year. See our offer below.

Our Flower Garden. We always did admire a nice flower garden and in this special bed we have over 150 different varieties of our choicest annuals that will commence to bloom early in season and continue until stopped by frosts in fall. This flower bed will be a constant source of pleasure and delight to you as the different varieties come into bloom.

We want to send you a large package of seed, enough to plant a bed a rod long.

Our Offer. We want every reader of FARM NEWS to try these varieties and we want you to do so at our expense. We want to give you an assortment of these seeds free of charge. All we ask you to do is to send us one yearly subscription at 25 cents and we will send you free and postpaid a package of Feterita seed, (enough to sow a patch of ground two rods square) a package of Sudan Grass seed (enough to sow a bed two rods square) and the big package of flower seed just as described above. We will send full and complete directions for planting. **Fill out the coupon today.**

Farm News, Dept. G., Springfield, Ohio

Order Coupon

FARM NEWS, Dept. G.
Springfield Ohio

Enclosed herewith find 25 cents for which send Farm News for one year to address below, and I am to have free and prepaid Feterita Seed, the Sudan Grass and the Flower Seeds as per your offer.

Name.....

P. O.....

R. F. D..... State.....

Mutton and Wool

(Continued from page 4)

As a rule leguminous crops, which have the ability to add to the nitrogen and humus content of the soil, should be utilized as much as possible for furnishing summer and autumn grazing for sheep. Sowing red clover with oats, and allowing the sheep to have the run of the stubble after the grain crop is harvested, may seem like an expensive practice, but some of the best farmers in the Cornbelt have found it a paying proposition. American farmers have much to learn about red clover. While exceedingly well adapted to most of our land, it has never been given a fair chance to prove its superior value as a soil builder and late-summer pasture crop. When seeding clover in a spring crop, such as oats and barley, great care should be taken to get the seed covered rather shallow, and not to use a too-heavy grain seeding. In this way the clover will start quickly, and be able to obtain a better supply of moisture thruout the growing period of the oat and barley crop.

Oats and fieldpeas are an exceedingly valuable forage crop for early grazing, and the portion of the crop not needed for summer feeding will make ideal hay if cut and cured for winter. On farms where an early forage crop is needed to furnish food for the ewes that are nursing lambs during July and August, it will be found an ideal feed.

As an all-around forage crop rye is without doubt the most valuable for many farmers. It is, of course, a winter crop, and must be sown the previous fall. One valuable characteristic of this crop is the fact that it will thrive on many soils too poor to support a profitable growth of anything else. In fact it may be used to bring poor soils up to a' condition to grow clover and other legume crops. It is available early in the spring and late in the fall.

Rape is without doubt the best forage crop for sheep during the late summer and autumn. On many extensive sheep farms rape is an important factor in finishing the lambs in the fall, and also in conditioning the breeding ewes for the mating season. Because of its well-known ability to thrive under adverse conditions, this crop can be seeded with other crops, such as oats, barley and corn, and as soon as these crops are out of the way the rape will come on and make a good growth of valuable forage.

As a rule, a seeding of three or four pounds per acre, broadcast or with a clover seeder, will give a good stand. The seed should be covered with a weeder or light, smoothing harrow. A careful study of the English system of growing and feeding these forage crops would essentially aid us in developing a better system of flock husbandry on our Cornbelt farms.

Another important factor in successful flock husbandry is the handling of the flock so as to avoid intestinal parasites. While many sheepmen claim that these parasites may be removed successfully by gasoline, coal tar cresote and the standard vermifuges, practical shepherds know that the dosing involves more or less risk, and is less effective than making a clean-up of these pests. Prevention is not only better than cure, but it is the only way to secure an unchecked growth on lambs.

By growing forage crops for pasture, and changing pastures so as not to allow the lambs to follow the ewes, one can avoid these parasites. By practicing such a system of changing pastures flocks can be so managed as to reduce these losses to a minimum. By rotating forage crops with pasture grasses, and allowing the sheep to range on the stubble fields, one can plan his management so that the lambs will not be compelled to graze after the ewes, thus eliminating the danger of their becoming infested with these parasites.

A POTATO EXPERIENCE

By Bernard Rheingold, New York

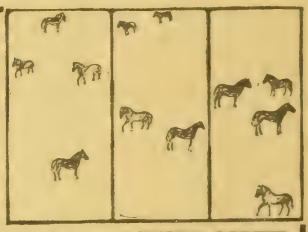
For several years I have grown potatoes. Some years I have had quite a success with them, and at other times I have lost out completely. Sometimes the failure was due to blight, brown rot, or various insect pests which are known to attack the potato plant. The crop of 1914 was a failure, due to grubs and wireworms. Not only was my crop destroyed, but those of all my neighbors.

During the winter of 1912-13 I took a course in agriculture at the New York College of Agriculture, and in the course was the study of insects and their control. Last year I determined to put the knowledge I had gained to some use, and as a result I had a good crop of potatoes, altho the entire crop, practically, in my neighborhood was a failure, due to white grubs. They not only attacked the potatoes, but also destroyed patches of field corn. My experience may prove valuable to other farmers, so I will give it.

Potatoes can be grown on almost any kind of soil, but I like a medium light loam. This gives the best quality of tubers, and a uniformly good yield. The ground should be well supplied with

Solve This Picture

See Our Big Prize Offer Below

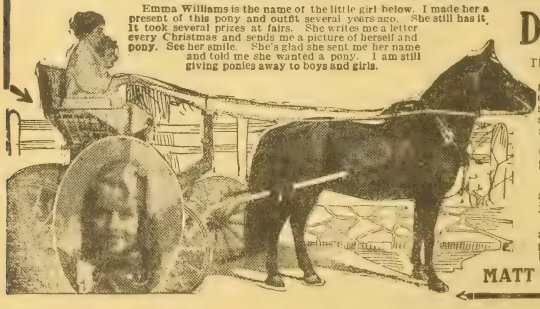


A farmer has twelve Shetland ponies in three fields, as shown in the illustration. With a pencil draw only two straight lines to make exactly eight fields. Four of the fields will contain two Shetland ponies each, and the other four fields will contain only one Shetland pony each.

Send in your solution quickly and we will at once enter your name as a member of our new Boys' and Girls' Shetland Pony Club. We tell all the Club members how to get a Shetland pony free. If your answer is correct it will help you get the pony outfit shown below. We will answer with the correct solution then you will know. Send your name anyway. (Cut out the picture.)

This Shetland Pony Outfit FREE

PONY, CARRIAGE, HARNESS, SADDLE AND BRIDLE—ALL GIVEN AWAY



Emma Williams is the name of the little girl below. I made her a present of this pony and outfit several years ago. She still has it. It took several prizes at fairs. She writes me a letter every Christmas and sends me a picture of herself and pony. See her smile. She's glad she sent me her name and told me she wanted a pony. I am still giving ponies away to boys and girls.

Do You Want This Pony?

The next pony I am going to give away is a beauty—jet black, about 42 inches high, perfectly sound, plump, well trained, kind, and as gentle as a lamb. Perfectly safe for any little boy or girl to ride or drive. The carriage is just as pretty, with rubber tires and nickel side-lamps. Fine black leather, nickel-plated harness, russet leather saddle and bridle. Could you think of a finer outfit? Do as I say and you can have all as a present from me.

Send Your Name Quick

I want your name. I have a story to tell you. I have the pony all ready to send to the lucky boy or girl. It can be sent to you just as well as not. My plan is very simple and easy.

If you can't solve the picture at the top send me your name and address and I'll show you how. I want you to have a real Shetland pony all for your very own, and you can have one, if you do as I say, so send me your name to-day, and please address:

MATT YOUNG, Pony Man, Dept. S15, Springfield, Ohio

humus, or vegetable matter, and be rich and mellow to a considerable depth. I plowed the field I intended to use for potatoes early in the fall to a depth of about nine inches. On light soils I plow a little shallower, and during the entire winter I haul out manure just as fast as I get a load, and spread it on the plowed ground, thereby saving time when it is a great item, and also saving all of the elements of fertility in the manure. I spread it at the rate of 15 loads to the acre.

In the spring of the year, as soon as the ground is in condition to be worked, I go over the ground with a spring-tooth harrow, which mixes the manure with the soil thoroly. I then plow the soil a second time, about two inches deeper than I did in the fall. I harrow at once with a spike-tooth harrow once every week until about June 15, which is the time we plant our late potatoes in this section. You should have seen the condition of the soil in this field at planting time—fine, mellow and full of moisture.

About a week after planting I go over the field again with a spike-tooth harrow, thereby preventing the evaporation of moisture, killing any weeds that have started, and levelling the ground. When the plants come up so that the rows can be distinguished I commence to cultivate, and keep on cultivating very frequently until prevented by the spreading of the vines. The first cultivation may be two or three inches deep, but after that the cultivation should be shallow.

I commence to spray the crop for blight and potato bugs when the plants are about six to eight inches high, and repeat the spraying every ten days or often enough to keep the plants coated with the spraying mixture. I spray with bordeaux mixture, which is made by dissolving 5 pounds of high-grade stone lime in 25 gallons of water, and 5 pounds of blue vitrol in 25 gallons of water in another receptacle. When the blue vitrol is thoroly dissolved the contents of the two barrels are poured together and thoroly mixed. Care must be taken that sufficient lime is used, or the mixture will injure the plants. I also add one pound of paris green to kill the bugs at the same application.

FREE TO THE RUPTURED

5000 Sufferers to Get Free Trial Plapao

No Need To Go Through Life Wearing a Useless Truss

This generous offer is made by the inventor of a wonderful **"all-day-and-night"** working method which is to be used to **tone up** and **strengthen** the relaxed muscles, thereafter **doing away with painful trusses altogether**, and the necessity for **dangerous** operations.

NOTHING TO PAY

To the extent of 5,000 sufferers who may apply—Mr. Stuart will send a sufficient quantity of **Plapao without charge** to enable you to give it a thorough test. You **pay nothing** for this trial of **Plapao, now, or ever.**

STOP USING A TRUSS

Yes, **stop it**, you know by your own **experience** it is only a **makeshift**, a false **prop** against a collapsing wall, and that it is **undermining your health** because it tends to **retard the circulation** of the blood. Why, then, **continue** to wear it? Here is a better **way**, which you can now **prove** for yourself, **free of charge**.

USED FOR A DOUBLE PURPOSE

First. The primary and **most important** object of the PLAPAO-PADS is to keep **constantly applied** to the relaxed muscles the medication called **Plapao,** which is **contractive** in nature, and taken **together** with the ingredients in the medicated mass is intended **to increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second. Being made self-adhesive, **purposely** to **prevent** the **pad** from **shifting,** they **have** therefore proven to **be an important adjunct** in retaining rupture that **cannot** be held by a truss.

Hundreds of people **old** and **young,** have gone before an **officer qualified to acknowledge oaths,** and **sworn** that the PLAPAO-PADS **cured** their ruptures—some of them **aggravated** cases—and of **long** standing.

Mr. S. A. Fish, 750 Foster St., North Andover, Mass., states under oath:—"I regard my cure little short of a **miracle for I am over 71 years old, and was so bad that** I came pretty near answering to the last roll call. I only used Plapao-Pads for 90 days to effect a complete cure."

Mr. L. C. Jones, Merrill, Wis., declares under oath:—"I was cured while engaged in the hardest kind of work, and **now my doctor says I am stronger than I was before. It was easy to see how your Plapao-Pads made the muscles firmer."**

CONTINUOUS NIGHT-AND-DAY ACTION

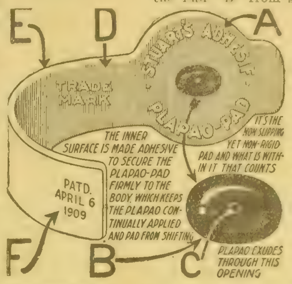
A striking feature of the Plapao-Pad treatment is the comparatively **short** time it takes to get **results.** This is because the action is **continuous**—night and day, throughout the **whole** of the 24 hours.

There is **no** inconvenience, **no** discomfort, **no** pain. Yet **minute** after **minute**—whilst you are going **about your daily duties**—even while **you are sleeping**—this wonderful remedy is invisibly **infusing** the abdominal muscles **with the new life and strength they require** to perform their rightful function of **keeping the bowels in place without the artificial** support of a truss or device of any kind.

THE PLAPAO-PAD EXPLAINED

The **principle** upon which the **Plapao-Pad** works can be easily figured out by noting the accompanying illustration, and **reading** the following explanation.

The PLAPAO PAD is made of a strong **flexible material "E," which is designed to** conform to the movements of the body and be **perfectly comfortable** to wear. Its inside surface is **adhesive** (similar to, yet **quite different** from an adhesive plaster)—**to prevent** the Pad "B" from **shifting** and **getting out of place.**



"A" is the **enlarged end** of the PLAPAO PAD, which **overlies** the affected and weakened muscles to keep them from **giving away further.**

"B" is the properly shaped Pad to be arranged in such a way that it **blocks up the hernial orifice,** and tends to prevent the contents of the abdomen from protruding. Within the pad is a reservoir. In this reservoir there is placed **a wonderful absorbent-astringent** medication. As soon as this medication is warmed by the heat of the body it becomes soluble and **escapes** through the small **opening** marked "C" and is absorbed through the pores of the skin to **strengthen** the weakened muscles and effect **a closure of the openings.**

"F" is the long end of the PLAPAO-PAD which is to be plastered over the pubic bone—a part of the frame work of the body, **calculated to give the necessary solidity and support** to the PLAPAO-PAD.

BRINGS ABOUT THESE BENEFITS

The results if successful in following this treatment (**as you can now prove for yourself free of charge**) are **wonderful.**

—The ruptured parts are **sustained** and **held together.**

—The weak **muscles recover** their **elasticity** and **strength.**

—The **unsightly,** painful and dangerous protrusions disappear.

—That horrible **"dragging down"** sensation is banished **never to return.**

—You **recover** the **vigor, vitality, energy** and **strength** you have lost.

You once more are able to **enjoy life without fear** of trouble.

MAKE THE TEST FREE

Make a personal test of its value. Send no money, for the Free Trial Plapao costs you nothing, yet it may bring you a **Health-Restoration** more precious than **much fine gold. Accept this free "Trial"** today and you will be glad you took advantage of this opportunity as long as you live. Write a postal card or fill out the coupon today, and by **return mail** you will receive the free trial Plapao, with **a presentation** copy of Mr. Stuart's 48-page book on **rupture,** containing full information regarding the method which was awarded a Diploma with Gold Medal at Rome, **and a** Diploma with Grand Prix at Paris, which should be in the hands of every sufferer of this dreadful affliction.

5,000 readers can obtain this free treatment. The response is certain to be enormous. To avoid disappointment write NOW.

SEND COUPON TODAY TO

Plapao Laboratories, Inc.,
Block 609 St. Louis, Mo.
For Free Trial of Plapao and Mr. Stuart's **Book on Rupture.**

Name . ...

Address . ...

Return mail will bring Free Trial Plapao.

Statement of the Ownership, Management, Etc., Required by the Act of Congress of August 24, 1912.

Of Farm News, published monthly at Springfield, Ohio, for April 1st, 1916.

State of Ohio, County of Clark—ss.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared Rupert Wissinger, who, having been duly sworn according to law, deposes and says that he is the Treasurer of the Simmons Pub. Co., publishers of Farm News, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Simmons Publishing Company, Springfield, Ohio.

Editor, H. D. Brydon, Springfield, Ohio.

Managing Editor, M. C. Young, Springfield, Ohio.

Business manager, I. E. Seymour, Springfield, Ohio.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

The Simmons Publishing Company, Springfield, Ohio; M. C. Young, Springfield, Ohio; Mrs. H. L. Simmons, Cincinnati, Ohio; John N. Garver, Springfield, Ohio; R. Simons, Admr., W. C. Simons Estate, Arlington, Pa.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: Springfield Building & Loan Assn., Springfield, Ohio.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

THE SIMMONS PUB. CO.,
Rupert Wissinger, Treas.

Sworn to and subscribed before me this 27th day of March 1916.

HARRY A. BRENNER
(Seal) Notary Public.
(My commission expires [illegible])

Churn In Two Minutes WITH THE LEADER

Get More and Better Butter

Stop butter waste. Get more and better butter in less than one-third the time it takes with the old-fashioned back-breaking churn. Thousands of Leader users now make churning day a pleasure instead of a drudge. Mrs. W. S. Browning, Cynthiana, Ky., writes, ***"I always hated to see churning day come, but since I have my Leader it does not come often enough."*** We are mighty proud of the Leader—you will be too, after your first trial. We know all of your neighbors will want one. That is why **we are making the most sweeping introductory offer ever heard of. Think of it. We will send this superior butter maker to you for thirty days' free trial. Don't send us one cent.** The Leader is made of only highest quality material—simple in construction—nothing to get out of order—no adjustments to be made—no hoops to fall off—no barrel to get foul and sour—no iron bearings to make black grease. The most durable and easiest running machine made. Pays for itself many times in one season. With proper care will last a life time. Contains every modern convenience. We guarantee it to be faultless.

Special Dash

This special dash used only in the Leader Churn is made of sugar maple—**the sweetest wood known for butter making.** The four large blades are cut with the grain of the wood. No splinters to chip off. These large square blades revolving rapidly, produce more agitation and concussion than is possible in any other style of churn. This high-speed dash acts in somewhat the same manner as the cylinder in a cream separator. The square container prevents the cream from whirling around with the dash and aids materially in the churning process. You cannot fully appreciate the merits of this remarkable butter maker until you have tried it out for yourself.

30 Days' Trial Absolutely Free

We will send you this wonderful churn (any size you wish) on thirty days' free trial. Don't send us one cent. We want you to try it out in every way, put it to every test—**see for yourself the great saving in time—the better grade of butter—the ease of operation.** After thirty days trial if you are not entirely satisfied that it is the greatest churn you ever used, return it at our expense. We have sold thousands and thousands of these wonderful churns and these thousands of satisfied customers had this remarkable churn on thirty days trial before deciding to buy it. It will sell itself—you won't want to return it after you try it—you cannot buy greater churn value anywhere at any price.

Mail Coupon Today

You take no risk—you are absolutely safe—no red tape—no money down—no deposit—no obligation to buy—a full 30 days trial Free. If you are entirely satisfied it is the greatest churn you ever used send us our low introductory price after trial. Nothing like this has ever been attempted. This is the greatest opportunity you will ever have. All we ask is that you pay the express charges

Novelty Mfg. Co.,
Dept. 405 Abingdon Ill.

Please send me at once a Leader churn for 30 days Free trial. After 30 days trial I will remit your special introductory price or return at your expense.

☐ 3 gallon size ☐ 5 gallon size
☐ 8 gallon size

(Place cross (X) in square before size you need.)

Name.....

Town.....

State.....

Special Introductory Prices

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3 gallon size only $4.00 5 gallon size only $4.25 8 gallon size only $4.75

(Remember, the Leader churns over half rated capacity)

No churn manufacturer has ever made such a sweeping offer. We know just what the Leader will do—we could not make such a startling offer unless we had every faith in our product. **You are not spending money, but saving it, when you buy a Leader.** The money your are losing in wasted time and work and loss of butter would pay for a Leader many times over. **You can't afford to be without one.** Everything is fair and above board—Fill in coupon—mail today—churn will be shipped promptly. Simply place a cross (X) in square before size you need.

Novelty Mfg. Co. Dept. 405 **Abingdon, Ill.**

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My wife is so pleased with the churn that she would not do without it for twice the price. She makes a third more butter in a third of the time with the Leader.—David C. Murphy, Auvergne, Ark.

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ONE TRIAL CONVINCES

I received the churn, it good shape have tried it once and am convinced it is alright.—Mrs. Edgar Brown, Doster, Mich.

CAN'T WAIT THIRTY DAYS

The churn is a gem. It does exactly what it promises and I wish I had waited for it instead of using a cheap churn.—Mrs. Ass

CHURNS SWEET CREAM

Churns better than any sweet cream in a short time. Cream may be rather thicker than the Leader but it works well then. Very soon paying for itself.—Wm. J. Cook, Montrose, Mo.

REAL CHURN AT LAST

I have tried top churns and it is the only one churn I ever took. We would not be without it for it is a time saver on the farm.—Fred Kleinberg, Lowing, Wis.

AS Ag. sem.
COLLEGE OF AGRICULTURE
READING ROOM

FARM NEWS

All That is New and Best For the Farmer

Springfield, Ohio June, 1916

How About Your Silo? Buying Feed Will be Expensive Next Season

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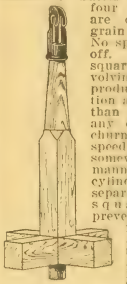

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Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

FARM NEWS

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HARRY DEAN BRYDON, Editor

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI **JUNE 1916** **Number 6**

GASOLINE VERSUS DENATURED ALCOHOL

THE present gasoline situation reminds us of Tolstoi's famous saying that the Rusisan nobles, "will do anything for the poor but get off their backs." Paraphrase this to, "the powers that be will do anything to relieve the high cost of gasoline, except to subject the oil monopoly to real competition, by helping farmers to develop the agricultural distillery industry and produce an abundance of the best of all liquid fuels," and we have the main reason for the liquid fuel shortage. In this day and generation there is no reason for a liquid fuel shortage other than the indifference of our government to a great agricultural development and the ignorance or shortsightedness of liquid fuel users themselves.

The internal combustion engine is in the earlier stages of its development. Where there is one engine today there will be ten tomorrow, a hundred in the near future. Some substitute for gasoline will be found, but unless they are of the miraculous order of some "green fluid," which will convert water into a power fuel, the supply will be wholly inadequate to the demand. Such miraculous fake compounds may be good for helping the sale of munitions stocks to gullible, get-rich-quick investors, but they will not help liquid fuel users.

But it is absolutely certain that no matter how many new sources of supply for mineral oil are found, and no matter how much Rittman processes may be developed, a time will come when the earth's reservoirs of oil will be exhausted and man must create his own liquid fuel, not in the miraculous manner of the fakers but in the natural, God-ordained manner of putting the productive forces of nature to work to supply his wants. The automobilist, crying out against the high price of gasoline, is like the mariner on the ship in the mouth of the Amazon River dying of thirst. Just as all the mariner had to do to relieve his thirst was to dip his bucket overboard, so all the automobilist has to do to insure an abundant supply of liquid fuel at a reasonable price, is to insist upon Congress passing a bill that will start the farmers producing alcohol. The internal combustion engine will out-grow the gasoline supply, but once the farmer is started making alcohol fuel it cannot run ahead of the alcohol supply.

Having studied the industrial possibilities of alcohol for fifteen years, having seen that everything which can be done with gasoline or kerosene for light, heat, or power, can be done better and safer with alcohol, and having seen the immense possibilities of industrial distillery development on the farm, we are positive in the belief that once the farm distillery industry has passed the demonstration and experimental stage, the price of alcohol will rapidly decline, and it will come into general use in innumerable ways and wield a most powerful influence in stabilizing the price of liquid fuel.

The 63rd Congress gave this country the best denatured alcohol law in the world, measured from the farmers' standpoint, but failed to make an appropriation to meet the cost of carrying the industry thru the initial experimental stages.

The farmers never won their fight for the parcel post until they organized and fought for it. They have never won anything worth while except by backing their demand by a well organized movement.

AN ANNOUNCEMENT
To Those Who Have Entered Our Big $5,000 Picturegame Contest

The Big Cash-Prize Picturegame Contest closed June 1. All books containing answers which were stamped with the postmark of June 1, were received . Any mailed later than that date were not accepted. We received many thousands of answers in the Picturegame Contest, and in fairness to all contestants it will require that each set of answers be given the closest attention. This will require time, despite the fact that we will give it our earliest attention. We ask your forbearance while we are looking after your interests in the contest, and wish to assure you that the judging will be conducted in the most impartial manner. We want to rush this thru as expeditiously as possible, consistent with giving each answer the earnest consideration it deserves, and hope to announce the winners in the August number of Farm News. Assuring you of our utmost good faith, and thanking you for your kindly interest and patronage, we are

Gratefully yours,
SIMMONS PUBLISHING CO.

REAL HELPS FOR FARM BUILDERS

"Service" is the slogan of the Southern Pine Association, an organization of southern lumber manufacturers who are working together to promote the proper use of wood in building. One important feature of the association "service" is the free distribution of informative booklets dealing with building and repair work on the farm. Included in this literature is a booklet on "How To Choose and How To Use a Silo," "Lumber Pointers," and other publications that give much valuable information to farmers while advocating the use of southern yellow pine as the most economical and durable wood for farm building. Supplementing the booklets sent out by the association are detailed plans, with lumber bills complete, for various priced homes, barns, garages, granaries, feed sheds and numerous smaller farm buildings. The plans are free.

This material, intended to stimulate building and thereby improve living and working conditions on the farm, is distinctly helpful to the rural resident, whether or not he lives in a locality where southern yellow pine may be obtained. The building helps are prepared by experts, and the booklets are written by authorities on the various subjects treated. The distribution of the Southern Pine Association's free "Service" material affords one of those rare opportunities to get for nothing something really worth while, and every farmer contemplating building improvements should send for such of the literature and plans as treat of his requirements. There is absolutely no cost involved in requesting this material—the Southern Pine Association has nothing to sell to you. The service is free. Requests, stating your needs, should be addressed to the Southern Pine Association, 714 Interstate Bank Building, New Orleans, La.

Tell your neighbor about Farm News and send 40c for his and your subscription.

Harvesting the Small-Grain Crops

Preparation and Care Important Factors in Saving the Work of a Year

By Lester J. Meredith

FIRST thought should be directed to the question of the proper time of cutting. Wheat may be cut when the straw begins to yellow and the kernels are in the dough stage. They should be firm enough to be easily crushed. Barley may be allowed to become nearly ripe before cutting. Oats may be cut when about one-half of the leaves show green.

The safer plan is to begin cutting so that the crop may be harvested with as little waste from shattering as possible. The field, as a whole, may show a slight greenish tinge. Oats cut at this time cure and ripen to the best advantage. Perhaps one side of the field may be a day or two ahead of the rest. A start as soon as a few acres are ready means a gain of valuable time in harvesting a large acreage. The same thing applies to other small grains. But it is safe to cut wheat with more sap in the straw than can be allowed in oats, without danger of the grain being damaged in the mow or stack.

Getting the binder in shape to begin the season's cutting should receive more attention than it usually gets on the average farm. It is the most complicated and delicately adjusted machine used on the farm. The man who neglects to provide shelter for his binder will be compelled to pay heavy bills for repairs before he finishes cutting his grain. No matter how well a binder has been sheltered, it needs a good overhauling and cleaning before going to the field. Every part needs adjusting, every loose burr should be tightened, and anything sprung out of line should be straightened.

A few hours spent in overhauling and cleaning a binder reduces breakage and delays to a minimum. Any part that shows severe wear, or does its work imperfectly, should be replaced before related parts are affected. It is poor policy to run any machine until it breaks.

While being used in the field the binder should be kept well oiled. The life of the machine depends upon the oiling. Use good machine oil frequently and plentifully, but always bear in mind that the oil which runs out of the boxings does no good. It is better to stop the machine every thirty or forty minutes than to allow some of the boxings to run dry. Every bearing that is allowed to run dry soon gets loose and runs dry quicker. This increases the draft and the liability of breakage. Straw and dirt should be promptly removed from parts whose functions are interfered with by such accumulations.

It does not pay to take chances with binders. Many drivers, seeing weed patches and wet spots in the field, whip up the horses in an attempt to cut thru instead of taking time to drive around. Many times sections are broken or pitman-rods smashed by such careless driving. Binders were not made to stand driving over stumps, stones and steep washes, or to cut willow sprouts and huge weeds. Any man with common-sense can determine in a few seconds whether or not his machine will cut thru such places. By careful driving, frequent oiling, and not monkeying with the various parts of the machine, unless one knows just what needs adjusting, there is little danger of serious breakage in operating a grain binder.

Sufficient horsepower is a prime factor in operating a binder successfully

One of the prime factors in operating a binder successfully, is that of having sufficient horsepower. Business farming requires that such important work as harvesting small grain should be done at the right time. That time is brief. In the light of these facts there should be large horses that are capable of handling the machine without wiggling and tugging in the collar every time there is a slight increase in the draft of the binder. A shortage of horsepower during the harvest is a serious handicap and should be avoided. The driver who is compelled to spend his time whipping up three or four horses cannot properly look after his machine, and attain a high degree of excellence in his work.

Three large drafters are needed on a six-foot binder in heavy grain. If the

(Continued on Page 17)

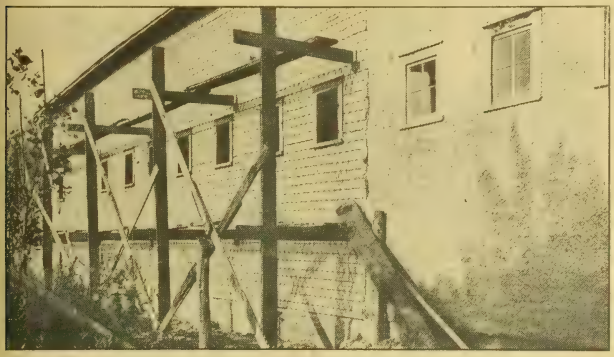
Due to multiplicity of threshers, and economy in handling, stacking has become a lost art

Modern Exterior for the Old Home

Stucco---The Wizard Which Gives Old Buildings the Appearance of New

By H. Colin Campbell

GOING back into early records of the human race, we find that among the first habitations of man were those of a framework constructed of reeds, plastered with any available material which could be made plastic by the addition of water, and which would subsequently be dried by sun and wind, so that the house might to a degree be dry and warm. This humble beginning really marks the birth of one of our modern applications of cement, namely, stucco.



Modern practice no longer favors the use of wood lath

Today the average farmer is so well informed concerning the many uses to which Portland cement can be advantageously put, that he is no longer surprised to hear of suggestions offering new uses of this wonderful material. He has recognized in cement, hence in concrete, a friend that introduces increased economy in many of his building operations, protection against fire, and permanence in a degree not equalled by any other building material.

Year after year the old farmhouse needs painting and other maintenance to keep it in serviceable and attractive condition. If not given such attention, weatherboarding, window-sills, eaves, and other portions soon decay, and it is only a question of time when the house must be practically rebuilt. Stucco is a material which is new only in name, since the idea of plastering residences and other buildings has come down to us from time almost immemorial, as previously mentioned. Stucco today is a mixture of Portland cement, sand and hydrated lime, combined with water so as to form plaster or mortar that can readily be applied by means of a trowel, in the same manner that interior walls are plastered.

The materials should be proportioned, one sack of Portland cement, two cubic feet of sand, and a quantity of hydrated lime equal to one-tenth of the cement. Hydrated lime is quicklime which has been thoroly slacked. Some times hydrated lime cannot be conveniently obtained, and it is necessary for one to slack quicklime himself. In such cases the resulting paste should be strained thru a sieve to exclude any unslacked particles. Sand should be added to form a mortar that will represent one part of lime to nine parts of sand, this being worked up into a thick paste. Cement and clean sand in equal parts should be mixed together on a separate board, and then added to the lime-sand mortar or paste in the proportion of one part paste to two parts of the cement-and-sand mixture. Only a small quantity of this stucco plaster should be prepared at a time, as the cement sets rapidly, and if this occurs before application, the results will not be satisfactory. The stucco mixture should be wet enough to work easily under the trowel, but stiff enough to prevent any flowing after applied to the lath.

Stucco has many points to recommend it for consideration as an exterior finish for buildings that must be remodeled. Provided the frame of a building is in a good state of preservation, stucco will contribute to prolonging its life in a marked degree, owing to the fact that when properly applied it is watertight, and thus protects the timbers from decay. It also increases fire resistance, altho, of course, stucco construction is not fireproof in the usual sense of the word.

In stuccoing an old building, regardless of whether the stucco is to be applied over the old siding, or whether this is to be first removed, it is necessary to nail furring strips over the old siding or frame, and then lath over these strips, so that there will be a proper surface to which the stucco will bond. Modern practice in stucco work no longer favors the use of wood lath. There are now on the market a number of types of so-called metal lath, which are not really lath at all, but thin steel plates several square feet in area, these being punched full of holes or otherwise deformed by slotting and expanding or stretching the sheets so that the plaster can be forced thru these openings, and thus "key" or bond with the lath.

Wood lath, of course, may be used, but if used they must be thoroly wet before the stucco is applied to prevent them from absorbing an excess of water

(Continued on Page 19)

Care must be taken not to bring too much fine sand and cement to the surface when troweling

Helping Out the Corn Crop

Close Attention to Proper Cultivation Proves That "Tillage is Manure"

By George B. Crane

IF YOU are a corn-grower, and someone should ask you to name the most useful implement on the farm, you would be about ready at this time of year to answer, "The corn cultivator." Altho we realize the importance of other farm machinery, there is no development more interesting than that which has taken place in the last few years in the development of the corn plow.

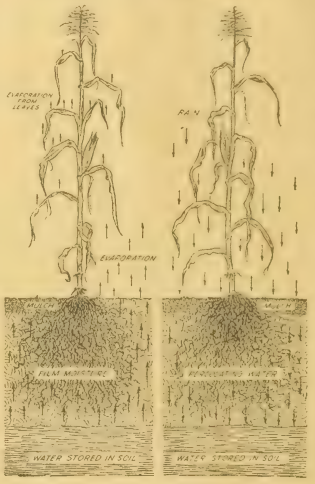
Speaking comparatively, the time was not far back when the large single-shovel one-horse walking cultivator was commonly used. This necessitated two trips up and down the field to cultivate one row of corn, a slow inefficient method indeed. Today we find in use the two-horse eight-shovel riding plow, that gets over a great deal of ground in one day, and does a much better job. And in some sections the three-horse two-row cultivator with twelve shovels, is used to advantage on extensive areas planted to corn.

So important do most farmers consider their corn crop that they give close attention to its proper cultivation. One of the difficulties is the fact that during part of the corn-plowing season, there are so many other things, including haymaking, that need prompt attention, that it is often a puzzle to know how to handle the situation. One of the simple rules to follow is to cultivate the corn as soon as possible after a heavy rain. Another is to cultivate enough to keep the weeds down. Both work together pretty well.

Many years ago, the man who discovered the advantages of cultivation, Jethro Tull, said "Tillage is manure." This expressed fairly well the benefits of thoro cultivation before the real "why" of the operation was known. As is known today the chief reasons for cultivation are to destroy weeds, conserve moisture, make plantfood available, aereate the soil, and to reduce run-off of rainfall. It is not hard to understand that the growth of weeds in a corn field uses up water and plantfood. The destruction of weeds then is the chief aim of cultivation. If a good machine is used, and the crop cultivated at the right time, there should be little trouble in keeping the weeds down. At the same time the other objects of cultivation, such as moisture conservation, will be accomplished.

We are all familiar with the fact that the corn crop requires a great deal of water. It is said with authority that a single inch of rainfall during the month of July in a state like Ohio will increase the corn yield to the extent of five million dollars. Likewise, we may figure that the conservation of an equal amount of moisture by cultivation increases production an equal amount.

The study of the development of the roots of the corn plant is very interesting, and teaches the reasons for repeated shallow cultivations. At first the roots are similar to tap roots, and have a tendency to go down into the soil in search of moisture and plantfood. As growth continues, lateral roots are formed gradually, and in sixty to seventy days the soil will be filled with these roots from hill to hill. If shallow cultivation is practiced, these roots will come near the surface of the soil, where the greatest amount of plantfood is available.



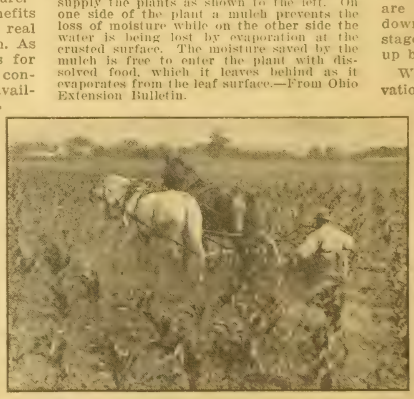
Water in the soil

To the right the rain is soaking into the soil. It passes down into it by gravity and is stored for future use. During dry weather the water moves upward by capillarity to supply the plants as shown to the left. On one side of the plant a mulch prevents the loss of moisture while on the other side the water is being lost by evaporation at the crusted surface. The moisture saved by the mulch is free to enter the plant with dissolved food, which it leaves behind as it evaporates from the leaf surface.—From Ohio Extension Bulletin.

After a heavy rain, of course, the water passes rather rapidly down into the soil, until it reaches a place where all the openings between the soil particles are completely filled with free water. This means that between rains the plant must get its water from this supply deeper in the soil. As the upper soil drys, capillary action is set up, and the movement of water is upward in the soil. If allowed to do so, much of this capillary water will pass up thru the soil, and be evaporated from the surface without having been of service to the corn plants. To prevent this, shallow cultivation is practiced. It forms a sort of blanket over the surface of the soil, stopping the evaporation. Deeper cultivation can be used early in the season, but later such cultivation will cut off the roots which supply the plant food and water.

Cultivation allows the air to circulate between the soil particles, which enables them to be more readily dissolved in soil water. In addition, a good supply of air in the soil is required to keep bacteria active. These little workers are continually aiding in the breaking down of organic matter thru various stages, until it is in shape to be taken up by the plant.

Where time permits, the first cultivation of corn should be made with the common harrow or weeder a few days after planting. Altho the harrow covers a great deal of ground, it has the fault of collecting rubbish and clogging. The weeder is more satisfactory for this early culture. It is advisable to use the weeder when the weather is dry. It can be used until the corn is well up. Following this, of course, the ordinary corn plow is used for shallow cultivation several times during the season. When the corn gets too high for the two-horse cultivator, it will not pay to use the one-horse cultivator between rows, except in cases where weeds are still bothersome. After the ground is shaded, cultivation aids little in conserving moisture.



The preservation of the dust mulch means many dollars during the growing season

Diversified Farming Best

Modern Practice Demands the Light Farm Tractor

By Joseph E. Fischler

EVER since I started to clear up a farm thirty years ago, I have had in mind the raising of cattle, hogs and sheep, with the further idea of growing the feed for them on the farm. We are now keeping cows, hogs, sheep and poultry, and are trying hard to produce their feed on the farm.

We are also keeping four to five head of horses to do the farm work. Right here is where we made a mistake in not having brood mares, and bred them so as to have two to five head of colts each year. As there has been no farmer's credit system in this country, we have had to get along as best we could. This has made our progress very slow.

I was lucky, however, when I built the barn, as it is arranged so that we can put in up-to-date fixtures with very little expense. We have installed feed and manure carriers, electric light, and last, but not least, a milking machine.

We aim to grow all the feeds needed for 12 head of cows, 6 two-year-old heifers coming fresh during the summer and fall, 6 yearling heifers, and expect to raise all the heifer calves. We keep a purebred Holstein bull, and one purebred cow. The balance are all strong grades, and are black and white.

We have 16 grade Shropshire ewes, as fine a bunch as I ever saw. We are also keeping over 6 shoats, 2 for brooders, one brood sow and a purebred O. I. C. boar. After many years of hard knocks we have got things coming our way slowly.

For feeds, we grow corn, Canada fieldpeas, oats, barley, rye and buckwheat for grain. For forage, we grow alfalfa, red clover and clover mixed hay. Now I am coming to something that most farmers neglect. We have about 14 acres in fruit, such as apples, pears, plums, cherries, etc. We have had plums and cherries for home use and some to sell for more than 28 years, and have had an apple crop every year for 19 successive years. Our first apple crop was 150 barrels, and we have run from that to 4,000 bushels a year. No farmer can afford to get along without fruit.

We have a full supply of farm implements, all modern. But the one machine we want and have not got, is the light farm tractor. I can see very plain that the light farm tractor will be very generally used by farmers in the very near future. It has come to stay, just as has the automobile, and it will be used more days in the year than any other piece of farm machinery. There will be many uses for the farm tractor when it does reach the farm.

DOCTOR LEARNED

The Power of Pure Food

Sometimes a physician who has exhausted medical skill on his own case finds that he has too look to pure food for help. Such was the experience of a Southern physician who has spent a great many years in his profession.

"The services of my life-time," he says, "have been to try to better mankind—to help them preserve health, and to regain it when lost. So it is with great pleasure I recall my first introduction to Grape-Nuts.

"I had never investigated this food until I came to use it in my own case. I had tried to heal myself and had had the services of other prominent physicians. Then I clutched at Grape-Nuts as a drowning man clutches at a straw.

"To my gratification I found that I had discovered something besides a broken reed to lean upon, for the food began to recuperate me immediately, and it helped me to such an extent that I eat anything that I desire and do so without distress.

"I have not only found a good friend in sickness, but a most delicious dish as well. It is the most nutritious article of diet I have ever found and I notice its splendid effects more particularly at night time, for a saucer of Grape-Nuts and milk is followed by a most refreshing sleep and perfect awakening.

"My only regret is that I was so slow to look into the scientific merits of this wonderful food." Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

HOW A BOY MADE MONEY FROM AN ACRE OF TOMATOES

When Berry Gano graduated from the high school at Carrollton, Ill., in the spring of 1915 he found himself without funds, and the job necessary to secure the same lacking.

Berry purchased some tomatoes at a local grocery store, and the idea suggested itself that he raise tomatoes and can them for the market.

It was yet early in the spring, so Berry started to work at once. He secured an acre of ground from his father. When weather conditions permitted, and the ground was dry enough, the land was plowed and the plants set out. Many of the plants he raised from the seed, and some he purchased from local gardeners.

The season of 1915 was extremely wet, and many of the tomatoes were damaged by the excessive dampness. Berry installed equipment sufficient to can the product of his acre. When the vines stopped bearing in the fall, with the advent of the first killing frost, he had more than twenty-five hundred quarts of selected tomatoes ready for the market.

The disposal of the canned tomatoes was an easy matter, for most of the goods was sold to the local grocers. With all expenses paid, Berry realized more than $250.00, net.

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The Peach Orchard

Some Problems the Average Grower Meets With in Production and Marketing

By Alvah H. Pulver

THE peach is rapidly coming into its own. It is one of the few larger fruits highly susceptible to climatic conditions. It will not winter well in temperatures approximating 14 degrees below, hence there are many sections of the country where no commercial ventures in the growing of the fruit would be advisable. In our section of Western New York we have an ideal climate, especially along the shore of Lake Ontario, where immunity from disastrous frosts is nearly always felt. Last season over 4,000 carloads of the fruit were shipped out of this district, and with no disaster to the present crop, it is expected that the forwardings this year will approximate 6,000 cars. In other favored sections of the country similar promising reports are given.

The peach growers everywhere are alive to the business of producing good fruit. In some ways, more substantial progress seems to have been made than in the case of the apple growers. The next matter to demand as careful attention is that of distribution, and in this problem the railways share a part, for they are a vital factor in the placing of the fruit in the districts not favored by climatic conditions warranting the culture of the fruit.

In New York state the railways classify peaches in carloads as first-class, and in less than carloads at one-and one-half times first-class. Last year, which could hardly be called a normal season, because of the extra heavy yield, many New York growers permitted their crop to rot on the trees and on the ground, because the growers could not get enough to pay to gather and ship them. It is estimated that there were between 1,000 and 1,500 cars in Western New York that rotted in this way. At the same time, in the remote districts, where the industry of peach culture is not followed, there was hardly any appreciable cheapening in the price for the fruit that season.

In consequence of such a state of affairs the New York State Fruit Growers' Association, and the Western New York Horticultural Society are uniting their efforts to have the freight classification, adopted over ten years ago, changed to suit modern conditions. The societies are striving to have peaches in carlots rated as third class, and in less than car lots as first-class. With this ruling in force it is contended that a much wider field of distribution will be reached, and it is expected that other peach states will take the matter up to secure a better cooperation by the railroads in placing the peach in as many homes as possible at the lowest price to the consumer. The people everywhere want peaches, and it is only just that the railroads should do their part in assisting toward an economical distribution.

One of the early problems encountered will be found to be that of fertilizers. "What is the best fertilizer for a peach orchard?" is a question often asked. There is no "best" fertilizer for peaches. A fertilizer that gives maximum results in a particular orchard, and is economical to use, might have but slender results in another orchard; in the latter some other fertilizer might produce highly satisfactory returns.

The proper use of a fertilizer in growing peaches, as for all other crops, is largely a local problem, and depends upon individual factors and conditions. If, for instance, the growth of the tree or the development of the fruit is limited by the amount of nitrogen which is available in the soil, the application of potash or phosphoric acid would be of no avail, and it would be an injudicious expenditure of money, so far as the effect upon the peach crop is concerned. In the same way, if potash is what the crop needs, then the application of nitrogen, phosphoric acid, and potash might be expected, other things being favorable, to produce the desired results. But if the soil is deficient in only one of these plant-foods, the application of the others is equivalent to throwing away just such money as was paid for them.

In working all soils with a view of maintaining them in a highly productive condition, it is a matter of prime importance to ascertain what factor or

Young peach orchard showing thoro cultivation, properly fertilized, and making even growth

factors are limiting the performance of the soil. The limiting factor may be an insufficient supply of some kind of plantfood, improper physical condition of the soil due to a lack of humus or poor drainage, either air or soil. The real problem is to determine what the trouble is, and then apply the proper remedy, if it can be had.

Fertilizers are often largely without appreciable effect if they are applied to soils that are in poor physical condition, as when they are greatly lacking in humus. It is for this reason that attention should be given to the use of fertilizers only after the possibilities of tillage and the maintenance of the soil in good physical condition have been exhausted in the effort to produce fruit successfully.

The wise plan then, is to carry on a few experiments with a view to determining the local needs. In arranging a series of experiments with this end in view, a representative portion of the orchard should be selected. To a few trees, perhaps five or six, an application of nitrogen should be made; to other trees, potash, and to still others, phosphoric acid. Different combinations of these plantfoods should be applied to other groups of trees.

A detailed record needs to be made of the different applications, and each group of trees treated the same way each season for several years successively. Gradually the results of the different fertilizer treatments will become apparent in the behavior of the trees, their growth and vigor, the productiveness and regularity of crops and the quality of the fruit. From these results the grower who has carefully studied the conditions should be able to decide upon the rational basis for the use of fertilizers in his own orchard.

As to the soil itself, to be adopted for the propagation of peaches, another wide field is opened. While some states, because of climatic and soil conditions, may not be generally classed as peach states, yet in nearly forty of the forty-eight states there are peach interests of commercial importance. Many of these states have to import peaches to supply the demands within, yet in each of them can be found sections where the peach seems to thrive in a contented environment. This crop will thrive on a wide range of soil, including some of the moderately heavy clay loams and clays. But whatever the nature of the soil it must be thoroly well drained, or one's efforts will be doomed to dismal failure. The heavy clay types of soil, hard and impervious, are to be avoided as a rule. A short time ago I made a photo showing a razed peach orchard. Every tree had been cut down, leaving only the stumps showing. The big mistake had been made of setting out the orchard on low ground not fitted for good drainage—not even good air drainage. The trees had been allowed to mature, but from the first season they should have borne they were a total failure. Pears might have made a slight showing there, but certainly it was no place for peaches.

A site that is somewhat elevated above the surrounding field is, generally speaking, a preferable location for a peach orchard, since with the natural settling of the colder strata of air, the higher reaches are more immune from the cold of the lower levels. Invariably the buds are affected by frosts in low places when orchards situated on higher spots are not in the least touched. There is, however, an exception to the force of this general rule, and that is operative in localities in close proximity to large bodies of water. Here elevation is not so important. It is no doubt this great factor in Lake Ontario that makes of Western New York in the counties skirting the lake, the great "peach belt" of the state. The lake, holding heat longer than the land in the fall, conserves the summer's heat against early frosts, and warming up more slowly in the spring, holds in check the buds that would otherwise be tempted out by too-early warm spells. By the operation of this natural force the tendency is for the timely appearance of the bloom period each spring after all danger from late frosts is past.

It is preferable that the orchard have some slope, the direction of which is not considered very important by experienced growers. The slope affords better drainage, both soil and air, than a level area. There are other factors to be considered in the successful growing of peaches, such as markets and distance from shipping stations. Refrigerator cars are needed in the transit of peaches, and where ice is not easily available one meets with quick discouragement. Peaches are one of the most easily bruised fruits, and it is hardly practicable to think of cropping the fruit where too long a haul would have to be negotiated in reaching the shipping station, tho, with the appearance of trucks and improved roads, this handicap is gradually disappearing.

Like every successful industry, pitfalls are present in many directions, yet peach culture has made many growers wealthy.

What The War Is Doing For The Farmer

The European war is not an unmixed evil; nor yet is it an unmixed blessing for this country. We shall not attempt to go into the ethical side of the question at all, nor shall we discuss "war brides", munition plants or other similar phases of the situation. We shall look at the war purely from the standpoint of prices for raw products, either produced here in this country or imported from foreign countries. And of course when we consider raw products we must carry the subject further on into the matter of the prices we get and the prices we must pay for finished products. We shall confine our consideration, too, to those products which have their origin on the farm either in the raw state or finished and manufactured into edible or wearable articles.

GATHERING SUGAR CANE

HOW SUGAR CANE GROWS.!

Let us take wheat, for example. We all know that the war has put the price of wheat way up. Very well—this means that the whole country: city, town and rural population as well are paying more for their flour—therefore the wheat raiser should theoretically be getting rich on a product which it costs him no more to raise than formerly and for which he gets more money.

But wait a minute—there are other things to consider in this matter of growing rich of of the war. Cotton and wool and meats and farm machinery and sugar have gone up too. This means that while the wheat raiser is getting more for his product, he is also paying some other agriculturist more for his product. This cuts down somewhat on the profits the war is bringing to the farmer. Then it would seem that the best way to keep ahead of the game is for the farmer to pay the farmer who raises his necessities the increased prices that the war has brought about and when buying his luxuries or those things that are not bare necessities of life to pick and choose from amongst them those that have not gone up in price in spite of the war.

For example, here is a peculiar situation in regard to a beverage which is so universally liked that it has become almost a staple. The name of that beverage is Coca-Cola.

Now Coca-Cola, as you know, is really an agricultural product—a product of the soil. Cane sugar—the very purest and finest—constitutes a large part of Coca-Cola syrup. As you know, sugar has gone way up—so every glass of Coca-Cola you drink makes some farmer's heart gladder.

So it is with the pure fruit juices that, combined, produce the inimitable flavor of Coca-Cola. Not so much in quantity seemingly when you consider—a single glass of this delicious beverage, but enormous when the entire Coca-Cola output is considered.

Yet this product of nature—of the farm—increased in cost though it has been to the makers, has not been raised one penny in price to dealer—or to you. The price at the soda fountain and in the bottle has not risen one iota.

Now inasmuch as the rural population alone of America consumes millions of bottles and glasses of Coca-Cola every year, you and the other agriculturists of this country will not only be able to continue to please your palates and get delicious refreshment with this beverage at no increased cost, but you will be sending back to the farm bigger profits and more money at no greater expense to yourself.

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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Mrs. Hen and Miss Pullet

Some Excuses For Derelictions, and Some Ways For Overcoming Them

By P. Thomas Zeigler

By the laws of nature, the regular breeding season for fowls is in the spring of the year. Reproduction being accomplished thru the medium of the egg, the accepted period of egg-production is when "mother earth" stirs herself into activity after a deathlike sleep, and busies herself to supply the wants of beings nursed on her bosom. Consequently it is against the will of nature for Mrs. Hen and daughter to lay during the cold winter months.

But is this last statement true? Before being domesticated and put under the care of man, fowls took their food as nature put forth her supply. In spring it was succulent grass; during summer, seeds; fall, berries, and winter, hunger. How much work can a man do on a ration of hunger? Can you make steam without water or heat without fuel? Could a hen be expected to do something on nothing?

A hen's capacity for egg-production is in proportion to the amount of food she consumes, and the period of time in which she has to consume it. During the short winter days, a fowl is denied from two to four hours less per day for consuming food than during the longer days of spring and summer. Aside from this there is the matter of temperature. Cold weather requires that a fowl consume a certain amount of food to furnish energy to supply warmth to her body, besides the usual amount of food needed for maintenance and egg-production.

Recent experiments have shown that to have a house well lighted by artificial light from 6 A. M. till sunup, and from the settling darkness until 9 P. M., materially increases the winter egg-production. Why? Because the fowl has from four to five hours more time in which to satiate her appetite, or shovel in coal, so to speak, and thus supply more material for the manufacture of the egg. It stands to reason that we, as human beings, can do more work in a day of ten hours than in one of six hours.

Also, we require heavier garments in winter to keep us warm. The hen is not endowed thus. She wears the same material in her dress season after season, no heavier, no lighter, no warmer, no cooler. To offset this she must consume more food in cold weather to make up for her deficiency in garments. Therefore any sane human being, who expects Mrs. Hen or Miss Pullet to lay eggs during the winter season, must give her the material with which the make it, and she will do the rest, providing—

First, that you give her satisfactory factory space and living quarters. She wants a nice clean, dry, warm, yet well-ventilated, house with plenty of elbow space. Second, that she be a hen bred with the laying qualities inherent in her. Some people work for pleasure, some because their particular work is their hobby, some work because they have to, while others do not work at all. As generations come and go, we find these qualities stamped in a marked degree in their offspring. So it is with fowls. Breed only those who lay because it is their hobby, for such hens find pleasure in their work and will put pleasure in your pocket.

BROILERS OR CAPONS

By L. H. Cobb

It is often a question whether it pays to rear cockerels for sale, and which is the best way to get the value out of them. It is the general opinion that only the very early cockerels can be sold at a profit as broilers, for the price drops later in the season, and the producer breaks about even. Many poultry raisers would not rear them at all if they could secure a supply of pullets each season without. The cockerels are a necessary evil in their estimation, and the question is to make the best of it. This is a mistake, for these cockerels can be made profitable.

Cockerels hatched in March or April, if they are kept growing rapidly, will be broilers when the price is high, and they will give a good account of themselves. When you can sell a two-pound chicken for seventy cents you have a good profit, and when you can sell it for fifty cents you are not losing money by any means, and when grain is sold at the prices that ordinarily prevail, thirty cents will see you thru with a little to the good. Less than fifteen cents per pound will not give enough profit to make it interesting, even as a side line, on the farm where they gather much of their ration. It is when this point is reached that we look for some better way of marketing them. Caponizing has come into favor for adding extra value to the cockerels of the flock, and especially applies to late hatches.

I have figured that when chickens under two pounds are worth thirty or thirty-five cents, or even as low as twenty-five cents per pound they are to be sold as broilers, but when the price falls below twenty-five cents per pound they are to be caponized. As the broiler size is practically the caponizing size this is quickly adjusted. You have no planning ahead to do. You grow them until the time comes to sell them for broilers or to caponize, and then do whatever the market demands.

If the price is good enough, put them in the coop to sell, but if it is too low, put them in the coop to caponize. Capons will always bring good prices, and when you grow them into capons you have something to show for your work. Growing them when they are little is the time that takes the patience

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

and worry, and selling when small gives small returns for this worry. Your pile of money is about four times as great when they are grown as capons, and the actual profit is fully two or three times as much.

Caponizing is not a difficult process, and full directions are given on all caponizing outfits. A little experience will enable anyone to do the work successfully, and the operation is not a painful one to the birds, compared with the suffering one husky rooster will inflict on another, and will take himself, just for the pleasure of being cock of the walk. I have had a young cockerel jump down after the operation, grumbling a little as he ambled away toward a pile of grain, but his appetite was not impaired in the least.

The time was, and not long ago, when capons were not regularly called for on the market, and one had to look out for a place to sell them. Now the only reason why they are not quoted in market lists is that the supply is so insignificant it is not worth while to quote them. All that are offered are readily sold, and commission merchants are glad to get them. They sell well at any time after they are eight months old, and ten pounds is not an unusual weight for a capon a year old of the heavier breeds. They bring from eighteen to twenty-five cents per pound on the Kansas City markets, and the Eastern markets will probably pay more.

CO-OPERATION IN MARINETTE COUNTY, WISCONSIN

Cedarville, Wisconsin, is a new settlement, only three years old, and is made up of people from Illinois, Iowa, and Oklahoma. We are all interested in dairy cattle.

The Co-operative Cattle Buyers' Association, of Marinette County, brought a carload of registered and grade Holstein cattle to our town a short time ago, and we expect another carload at no distant date. This association furnishes two breeds of dairy cow—Holstein-Friesian and Guernsey.

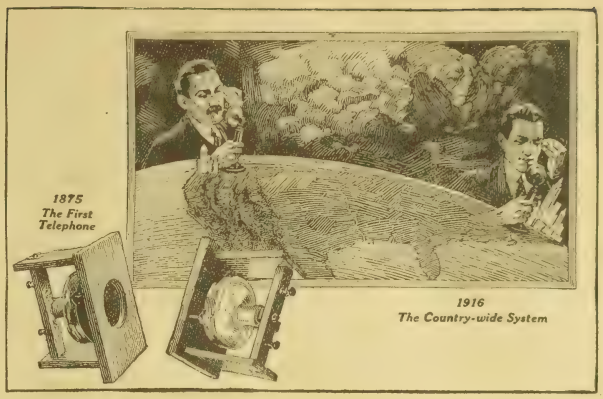
The farmer who has had no ready money to purchase good dairy cattle makes application to the association, who, when assured that he is in a position to care for the stock wanted, supply him with the cattle he wants.

The cattle are bought in carload lots, and are tested for tuberculosis before being shipped. Three or more years are given in which to pay for the cattle. In this way they practically pay for themselves. This plan helps the farmer to build up a good dairy herd in a very short time.

The number of dairy cattle in Marinette County has increased more than 250 per cent in the past two years. More than $20,000 worth of good grade and registered cattle have been brought into the county thru this co-operation plan of buying.

It is said that the first Holstein bull was brought into Jefferson County, Wisconsin, in 1875, and in 1885 the first Guernsey bull was brought there. Now, Jefferson County's receipts from the sale of Holstein and Guernsey cattle has almost reached the million-dollar mark.
—Mrs. Lucy L. Ferguson, Wisconsin.

Do not forget to sow seed of the Savoy cabbage. Perfection Drumhead and The Herald are excellent varieties.



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At this anniversary time, the Bell System looks back on forty-one years of scientific achievement and economic progress, and gives this account of its stewardship:

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Combatting The Fly Pest

Each Season Brings Its Own Peculiar Problems to the Busy Dairyman

By John Underwood

I NEVER fail to spray my cows regularly during the fly season. Protection from flies means more milk and butter, greater convenience in milking, and more contentment for the animals treated. The only practical method of controlling attacks of the flies which pester the cows is by the use of some substance which is repulsive to the flies.

A good dairy cow is usually a highly nervous animal, and anything which annoys her has a tendency to interfere with the milk-production. This is one reason why a dog should never be used to bring the cows from pasture. A dog often gets them so excited that the owner loses in milk and butter more than the value of the time saved. Those who keep daily records of milk and butter yields can trace any undue excitement to a decreased production.

Flies have the same effect. When the flies are bad to get away from, the cows will remain in the woods or shed, and graze only enough to satisfy their immediate hunger. The result is less milk. By keeping the flies off, the cows will graze more during flytime, and consequently they will produce more milk at less cost than they otherwise would. Spraying not only results in a larger flow of milk, but it saves enough grain feed to more than pay for the expense for material and labor in doing the work.

Practical experience has convinced me that this is true. When the cows are not sprayed they refuse to graze as much as they should, and stable feeding must be resorted to. The less they eat in the pasture the more they will need as a supplement, and the expense will be proportionately larger. How can a cow be expected to perform her duty in the pasture and at the pail when constantly covered with a blanket of flies sucking her very life blood? I have used several of the commercial preparations advertised in the farm papers, and all have given good satisfaction in repelling flies. Most of them are made from coal-tar products, and are put up ready to use, all that is necessary is to add the preparation to the required amount of water. The expense is a small item, as a very small quantity is needed for each cow. The spray mixture will not keep all those big black flies off the backs of the cows, but it will keep them from doing much biting or causing much annoyance.

It pays to buy a good sprayer for applying the solution. A cheap one can be bought for 50 or 75 cents, but it will takes so much time and work to use it that the purchaser will be sorry he did not buy a more practical type. I have a compressed-air sprayer which cost $5, and everyone who has a half dozen or more cows ought to get one of this kind. With one of these the chamber is filled with air, and the entire herd can be sprayed in short order. If any reader of Farm News wants to mix his own solution he can do so by securing the material from a drug store.

An effective homemade mixture can be had by thoroly mixing one part of crude carbolic acid with three parts of crude oil. This is a little cheaper than the commercial products, but it means considerably more puttering and bother in measuring and mixing. I prefer the advertised products.

If the cows are to be sprayed only once a day, the best time to do it is in the morning, so that they will be protected during that portion of the day when flies are at their worst. Spraying twice a day, just before the morning and night milking, will prevent practically all trouble, and save enough annoyance from stepping and tail switching to more than pay one for applying the spray.

Calves being raised should be sprayed at least once a day during flytime. The odor of the solution will frighten them at first, but they, as well as the cows, will soon get used to it, and pay no attention to the spraying operation.

UNDER DEVELOPMENT

Many owners of dairy cows do not place sufficient importance upon the development of the udder in the cows that they keep and breed. The principle that "like begets like" has become one of the dominant factors in the handling of profitable milk-producers. While there are a few cows with apparently small udders that give a good quantity of milk the great majority of the same class yield a small quantity.

An udder that hangs low is not to be coveted in a cow, as it does not add symmetry or beauty to the animal, and too often its dangling motion when the cow is walking is an irritating influence. It cannot possibly give such good results as would an udder that reaches well to the front and rear.

When purchasing a cow one should always avoid an animal that has an inverted pyramid udder, with teats that partake of the conical outline. A cow of that order is not a choice animal to milk, and seldom gives good results at the pail. I have known dairymen to select one or two cows that had fine udders and teats for the purpose of building up a herd of the same order, but unless the dams have an ancestry well developed in this particular, such a method is very much like a leap in the dark.

Of course a bull will influence this feature greatly, but as this function is not after his type the dam must be the greater factor to reproduce this development, and to her and her ancestry she owes so much that pedigree has a large preparatory influence upon the unborn heifer. There is so much real satisfaction in the milking and handling of cows that have good udders and good teats that it seems very strange that dairymen have so neglected this important feature of their herds, and by their seeming neglect far too many

cows have small udders, and consequently small short teats.

It will nearly always be noticed that cows with small udders, even in the best dairy breeds, usually carry too much flesh, and lack that double-wedge shape which is so desirable in the eyes of a modern dairyman. That is, of course, only one of the many points relating to the mating and breeding of good milk-producers.

IMPORTANCE OF CLEAN STRIPPING

What is the reason for clean stripping being of so much importance in the process of milking? The udder of a cow, composed of a solid mass of glandular substance separated into cells or divisions, is divided into two parts by a membrane from the front to the back, making two distinct halves. These halves are not divided, and yet the front and back part are distinct from each other, each quarter being connected with the teat which belongs to it by the small cells or divisions.

The upper part of the udder is made up wholly of fat, while the lower part has very little fat. Consequently, with this structure, the udder is not a simple reservoir of milk. The udder, in fact, can hold very little milk, the combined spaces or ducts in it are found to be insufficient to hold half a pint of milk, even in a cow giving several quarts at a milking. The milk therefore is produced in the udder as the milking proceeds, and the cow may prevent the flow of milk by repressing this action.

The giving of the milk is a voluntary act of the cow, and as she lets it down the milk flows from these cells into the passage leading into the teats. Necessarily the milk from the upper part of the udder can only come down last, and the glandular substance in this part of the udder, being mostly fat, the milk is made up largely of fat, which is mingled with the serum, or milky fluid, that escapes from the glands by a change of the substance into milk.

Thus the richness of the strippings is accounted for, and the necessity demonstrated for every possible drop of milk being obtained in the strippings, because the failure to do clean stripping not only results in a loss of the richest of the milk, but also acts injuriously against the cow in subsequent milkings.

SALTING BUTTER

While it may be pardonable to estimate the weight of butter in a churning, which some are able to do with surprising accuracy, it is never a good plan to "guess" at the weight of the salt required for a churning. On each and every dairy farm there should be a scale that will weigh to ounces or finer.

Suppose there are twelve pounds of butter in the churn or on the worker, weighed or estimated, then salt should be added at the rate of one-half to one ounce per pound of butter, according to taste or market requirements. If mild salting is desired six ounces of salt will be enough to add to twelve pounds of butter. If, however, a quite pronounced salt flavor is liked, then add twelve ounces or three-fourths of a pound of salt. Where a uniform rate of salting is followed there will not be the variations in salt flavor so common in farm-made butter.

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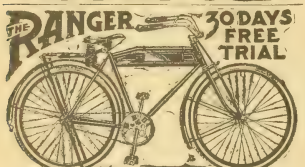

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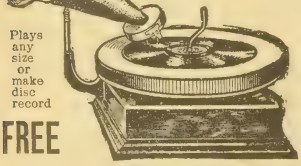

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June In the Farm Garden

Many Crops Cannot Be Planted Until This Month

By Charles H. Chesley

THERE is still a good deal of the planting of the garden that may be done this month. Some crops are so tender that it is scarcely safe to put the seed into the ground until the weather has become warm and settled. In the northern states this will not be before the first of June. Seed planted now will make a quick start, and grow much more rapidly than that which was planted a month earlier.

Among the vegetables that should not be planted until the first of this month are cucumbers, squashes, melons and okra. These are natives of a tropical climate, and they require warmth in the soil, else the seed may rot. A rule practiced over a wide area, by those who are believers in signs and moon influence, is to plant cucumbers the first day of June and before the sun rises. This is supposed to keep off the striped lady bugs that frequently do considerable damage to the young plants. While we do not recommend this date in preference to any other day before the middle of the month, yet we know that for ordinary home use cucumbers should not be planted until June. The blight, which has of late become rather prevalent, does not seem to affect the late-planted cucumbers as it does the earlier ones. Where this disease has become very serious, it is well to plant the Japanese Climbing cucumber, which is quite resistant to its ravages. This will grow readily on a trellis, and the fruits are of good quality.

Squashes should not be planted until this month. By late planting the vine borer is evaded to some extent. Once this insect starts its work there is little hope for a crop, for it works inside the stem, where poisons cannot reach it. The large squash beetles and the smaller ones, mentioned above, can be effectively controlled by spraying with arsenate of lead. A mixture of this poison with Bordeaux will check both insects and blight.

When the melons are planted, a large hill should be hollowed out, and two or three shovels of rotted manure or compost placed in the bottom. The soil should then be mixed thoroly with the manure, and the hill rounded up slightly above the level of the surrounding surface. Seed should be covered perhaps an inch in depth if the ground is fairly dry. If moist less covering is needed. When the plants have started the third or fourth leaf, it is time to thin them to stand two in the hill. The hills should not be nearer than eight feet apart in the rows. Cucumbers may be planted a little nearer.

Many crops should be planted in June in order to provide for a succession. Peas put in now will produce a good crop in late August, when those planted early have gone. The same is true of snap beans. Plant plenty of the wax-podded varieties now for August use. We have for a few years past been planting a variety known as Michigan White Wax, which has proven to be a sort of excellent quality and a heavy producer. The wax beans seem to be attacked by rust more than green-podded sorts, but this variety is as good as any, and the dry beans are somewhat like the ordinary pea bean, and therefore excellent to use when dry.

Late cabbage, cauliflower and Brussels sprouts should be sown this month. We seldom plant such seeds before the twentieth of the month, and find this is plenty early enough for any of the winter varieties to mature. The same is true of beets, yellow turnips, rutabagas and carrots for storing in the cellar. It is a mistake to plant these vegetables too early.

Tomato plants, for the main crop, eggplants and peppers should be set out this month. We have found it pays to set such plants deep in the ground, as the roots get down where they can reach the stores of moisture when it is most needed in late summer.

BRIEF GARDEN NOTES

Kale is one of the best plants to sow for fall and early spring use. Seed should be planted in June, and the young plants given the treatment one would give late cabbage. Long Standing is a good sort.

Chinese cabbage is a new plant that is attracting considerable attention. It does not form heads, but grows something like a Cos lettuce plant. The outer leaves are used as salads or greens, and the blanched hearts are used like cabbage. Do not plant the seed until late June or July.

Sow endive this month for fall use. If the heads are properly blanched, they are as delicious as the best lettuce.

We are trying a new vegetable this year, finocchio or Florence fennel. This is a great favorite among the Italians.

It is an easy matter to get a fine bed of asparagus started by sowing the seed. This may be done now, and the plants will be in good shape for transplanting next spring. Seed germinates readily and the young develop rapidly.

Sow kohlrabi several times during the spring and early summer. This vegetable is fit for the table only when it is young and tender, hence successive plantings should be made.

Do not forget to plant Golden Bantam sweet corn as late as the first of July. A few hills will furnish enough for the home table in late September or early October, when it will be most appreciated.

Celeriac is a turnip-rooted variety of celery that should be grown in all gardens. Soak the seed before planting.

We found several roots of Hamburg parsley in the ground this spring, which had come thru the winter without protection, proving that this vegetable can be left outside almost as safely as the parsnip and vegetable oyster. We shall try leaving more in the ground this fall, giving them an ample covering of straw.

Do not let the weeds get a start. One weed pulled in time saves pulling nine hundred and ninety-nine.

June In The Apiary

A Busy Month For The Bees And Beekeeper

By L. H. Cobb

JUNE is the busy month for both the beekeeper and the bees. The honey flow reaches its height during this month, and if we are to have any surplus we will see promise of it now. White clover starts the flow off well, if it yields, and sweet clover follows. If we have had a wet season the previous year white clover is almost certain to yield a good crop, but if the summer before was dry and hot, the white clover flow will not yield much surplus, altho it may be strong enough to fit the colonies for heavy gathering from the sweet clover, which opens up as the white-clover season begins to decline.

If all the colonies are not strong, and some of them are showing signs of swarming, better "shake swarm" those that are wanting to swarm, and put the frames from them into the weaker colonies. You save the full strength of the brood for honey gathering by this method. Some of my readers may not know what I mean by "shake swarming," and I will explain.

When you see the colony is preparing to swarm, which will be indicated by queen cells being started, set the old colony to one side, put a new hive in its place filled with frames of comb from which you have extracted the honey, or with foundation, except space for one frame. Take all but one of the frames from the old hive, one by one, and shake all the bees from them into the new colony. Watch for the frame that has the queen on it, and do not shake it, but put it into the new hive, queen and all, with the bees it has on it. Now divide all the frames from which you have shaken the bees among your weak colonies. These bees will hatch out in time for the field during the honey flow, and will add great strength to the colonies to which they are given. Your colonies should be examined every ten days for queen cells. It is not necessary to do anything with the queen cells under this plan, for the bees will destroy them themselves.

Plenty of supers should be provided. For farm honey, I would advise the shallow extracting super, but sections can be used if preferred. Bees will work quicker and better in the extracting frames, and the honey can be cut out for use just as well as from sections. The honey will be just the same in both cases.

When the flow starts put on a super. When the bees have filled it half full lift it and put another under it. Keep lifting the full supers and putting others under next the brood chamber all the time, and if the queen shows a tendency to go up into the super to lay eggs put a queen excluder over the brood chamber. It will not interfere materially with the bees. Comb that has had bees reared in it is not fit to sell for eating, tho the honey extracted from it is as good as any.

Leave the supers on the hives until after the flow, so the honey can ripen well. If it is taken off as fast as it is gathered it will be thin and will often ferment.

While there is little danger of robbing while honey is coming in rapidly, be careful if the flow is stopped suddenly by dry weather. Bees are in just the mood then to rob right and left if they can find an opening, and they will make an opening if fresh honey is exposed anywhere to give them a taste, and encourage them to make a raid. A raid once started will seldom stop without one or more colonies being destroyed.

Give plenty of ventilation as the heat increases, for the bees that band outside in great clusters will not be of much values to the colony in honey gathering. Make the entrances large, and it is an excellent plan to slip the supers backward or forward, so as to provide a quarter-inch opening between the first one and the hive body at the end. Sometimes I would slip others above in the same way, to provide more ventilation if needed.

I always clipped my queens before the honey flow, so they could not take swarms away if I did not succeed in preventing them coming out.

The Personal Test

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J. S. DENNIS, Assistant to the President

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To Show You What Others Are Doing We Quote the Expressions of a Few Who Have Made Money in the Plating Business

Mr. Reed, Ohio, made $88.16 THE FIRST 3 DAYS. Mr. Cox, Illinois, writes: "GET ALL I CAN DO." plate 30 sets a day. Elegant business; Customers happy. "Mr. Woodward earns $170.00 a month." M. L. Smith, Pennsylvania, says, "GOT $301.27 plating in 2 weeks." (used small outfit). Geo. P. Crawford writes: "Made $7 a day." J. S. Mills, a farmer, writes: "EASILY MADE $5 A DAY PLATING." Thos. Baker, school teacher, 21 years, writes: "I made $9.80 profit one day, $9.35 another." Albert McWethy, N. Y., "EARNED EVENINGS OVER $20, with no soliciting." H. H. Ward, Tenn., "EARNED $5.00 A DAY spare hours from my printing business." Chas. Brantber: "I made IN ONE DAY, $17.85 PROFIT." Sam Brown, Me.: "Plating ODD HOURS, MADE $27 profit in a week." E. B. Woodbury, old soldier: "Plated 1800 pieces table ware, AVERAGING $6 PER DAY PROFIT." E. L. Gracier, teacher, Philippine Islands: "I make $3 daily, besides teaching." R. T. Bartlett: "I made $2 per hour spare time." D. F. Fuller: "$5.25 first day." W. H. Davis, writes: "I get all the plating I can do." B. G. Vaughn, S. C.: "I conscientiously recommend the Royal Plater—do splendid work—average $5 per day." J. H. Carrier, N. Y.: "I made $6 IN 3 HOURS spare time." J. Anderson, N. D.: "You can get plating to do at every house." H. H. Bender, Mich.: "There is a great demand for replating." R. R. Howard, Mo.: "HAVE MORE WORK THAN I CAN DO." H. H. Ward, Tenn.: "Gray & Co., are thoroughly reliable and all who patronize them will receive fair treatment." Geo. E. Wilson, N. Y.: "Am now making nice living in the evenings. I make some weeks $20."

H. E. Woodward, of Pa., writes: "I have all the work I can do. I have two solicitors. It is very easy to learn to do plating. **I have done from $8 to $10 worth of work per day.** I can do more as I gain in practice. I thank you for the gentlemanly way in which you have treated me since I commenced to deal with you."

WHAT IS THE USE OF YOUR SLAVING LONGER FOR SOME ONE ELSE?

Why not start a business for yourself, reap all the profits and get a standing in your locality?

If you are in some one else's employ, remember he will continue to pay you a salary only so long as he can make profit out of your labor.

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It is just as easy to make money for yourself as it is to coin money for some grasping employer, who pays you a small salary each week.

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If you read it and take advantage of the opportunity offered, you will never regret it. To own a business yourself is certainly your ambition.

We **start** you in a profitable business. Teach you **absolutely free** how to conduct it.

It is no trouble to make $5 to $15 a day at home or traveling, taking orders, using, selling and appointing agents for PROF. GRAY'S Latest Improved, Guaranteed Plating Machines and Outfits. It is a practical, complete, scientific outfit for doing the finest plating on WATCHES, JEWELRY, KNIVES, FORKS, SPOONS, CASTORS, TABLEWARE OF ALL KINDS, BICYCLES SEWING MACHINES, SWORDS, REVOLVERS, HARNESS AND BUGGY TRIMMINGS, metal specialties; in fact all kinds of metal goods. HEAVY THICK PLATE EVERY TIME. GUARANTEED TO WEAR FOR YEARS. No experience necessary.

There is really a wonderful demand for replating. You can do business at nearly every house, store, office or factory. Almost every family has from $2 to $10 worth of tableware to be plated, besides watches, jewelry, bicycles, etc.

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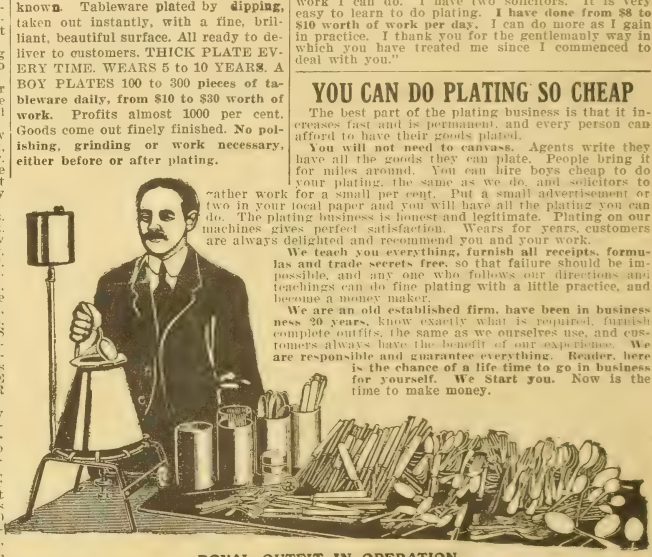

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Plate some articles for your friends and neighbors by Prof. Gray's Process and it quickly proves to them its genuineness and merit, and that your plating is much thicker, will wear better and longer than a large percentage of the new goods. Your trade is then established, and within a short time you will have all the goods you can plate.

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together with our new plan and proposition, also valuable information how plating is done. Write for FREE sample anyway.

GRAY & CO., Plating Works 2059 Gray Building, Cincinnati, Ohio

Harvesting the Small-Grain Crops

(Continued from page 4)

ground is rough or soft, it would pay to put on an extra team for leaders, one of which may be ridden by a boy. It pays to avoid overloading horses during the extremely hot weather in the harvest field.

Whether to thresh from the shock or from the stack is always a debatable question. If one can secure a machine and plenty of help at just the right time, and if he has plenty of floor space to spread the grain properly to prevent it from being damaged by heating, he is justified in threshing his grain from the shock.

Threshing from the mow or stack usually gives a better quality of grain. If grain is allowed to stand in the shock after it is properly cured, many of the kernels are likely to be discolored. If the wet weather is of long duration the grain may start to sprout or mold. Grain that has been cut a trifle green should be left in the field a few days, else it may heat in the mow. In case a heavy rain comes before hauling it to the mow or stack, it will be well to open the shocks and scatter the bundles so that the air and sun may dry them, before hauling from the field.

The grain stacks should be built on a well-drained spot where water will not stand under them. If on sod or stubble ground it is always better to plow the ground where the stacks are to stand. If possible make substantial foundations with rails, posts or old boards to keep the first layers of bundles from coming in direct contact with the ground. Considerable loss may be avoided by preventing the stacks from absorbing moisture from below.

Round, medium-sized stacks give better satisfaction than longer ones, principally because they are easier to build up and the bundles have a better opportunity to cure out properly.

Building a stack seems to be almost a lost art. Every farmer should know how to build a good stack. A few simple rules about starting, laying out the bulge, keeping the middle well filled, drawing in and putting on the cap govern the work. Round stacks are much easier to build. Stacks should not be too large, as pitching to the center becomes difficult, and the stack must be made high. The high stack makes pitching difficult, and has a tendency to cause the builder to draw in too fast.

The one great secret of building a good stack is to keep the middle full and compact. A stack is sure to settle, and it is very important that the middle settle the least. Provide a substantial foundation. Start the same as an ordinary shock, with the outside bundles practically flat. Keep the middle full and compact. Put the bundles in place with a fork. Make the bulge about four feet above the ground. The bulge makes it easy to slant the bundles down and provides a droop when the stack settles. Make a good top. Place bundles carefully. Some use swamp grass to top off the stack. Wires and weights will help to keep the top from blowing off. Rake down the sides, so that the butts of the bundles will slant downward.

Three Hundred Million Bushel Crop in 1915

Farmers pay for their land with one year's crop and prosperity was never so great.

Regarding Western Canada as a grain producer, a prominent business man says: "Canada's position today is sounder than ever. There is more wheat, more oats, more grain for feed, 20% more cattle than last year and more hogs. The war market in Europe needs our surplus. As for the wheat crop, it is marvelous and a monument of strength for business confidence to build upon, exceeding the most optimistic predictions."

Wheat averaged in 1915 over 25 bushels per acre
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Prices are high, markets convenient, excellent land low in price either improved or otherwise, ranging from $12 to $30 per acre. Free homestead lands are plentiful and not far from railway lines and convenient to good schools and churches. The climate is healthful.

There is no war tax on land, nor is there any conscription. For complete information as to best locations for isettlement, reduced railroad rates and descriptive illustrated pamphlet, address

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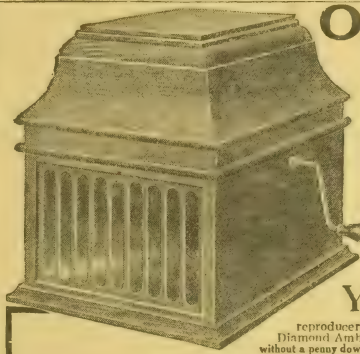

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Regular 5 horse-power Speedy Gasoline Engine

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The Culver Racer is a "real-for-sure" automobile especially built and designed for boys and girls. It is up-to-the-minute in design and of the very highest quality of workmanship. Its ball-bearing wire wheels are the very latest in motor car construction, having Firestone non-skid, clincher tires with inner tubes. It has a regular foot-pedal clutch; a capacity of two gallons of gasoline, enough to go 120 miles without refilling. The Culver Racer has a 36-inch tread and a wheel base of 66 inches; springs are the latest cantilever type; shaft drive transmission. The machine has three speeds forward, low, medium, high, and two speeds reverse. The 5 horse-power engine is air cooled and especially designed; brakes are very substantial, external contracting 5-inch Raybestos; battery or set spark ignition with a high-grade magneto. Its weight is 300 pounds ready for the road and is capable of making a speed up to 25 miles per hour on high gear. The tool box is built into the rear of the car which contains a pump and complete kit of tools. The upholstering is of leather design seat and back—the finish is a pretty, brilliant racing blue with black trimmings.

Runs 60 miles on a gallon of gasoline at a speed up to 25 miles per hour

Write your name and address on the coupon below and mail it to me right away. Then, after you have heard from me you will agree with me when I say my plan for giving away *free* automobiles and other grand prizes is so easy that you can't keep from winning. Hurry the coupon to me and you will be surprised at how easily you will be the proud and happy owner of this dandy Racer.

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Will Not Cost You One Cent

All the boys and girls will envy you when they see you riding down Main Street at a merry gait in the Culver Racer that I gave you. If you could see this splendid automobile and go spinning down the street alongside the big cars, I am sure you would not delay in mailing the coupon. The Culver Racer is so simple to operate that you can learn to drive it in a very few minutes—then there are not a lot of complex parts that are continually getting out of order. This dandy little automobile is so perfectly built that there is nothing about it but what you can readily understand. It will take you quickly and safely anywhere you want to go. If you could crank it up now and hear the steady whir of its powerful motor and see what a perfect machine this little wonder is, I am sure you would want it so badly that you wouldn't rest until you got it.

This is your chance to own a regular automobile—not only that, but I will give you dozens of other beautiful and useful presents that all boys and girls want—just the kind of presents that you have often wished for. You can't help winning if you will mail the coupon now and get started at once and do as I say. You will be surprised at how easily you can get the very thing your heart desires.

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Don't let anyone tell you that you can't get it—you can win and you will win if you will write me at once and do as I say. I have given away thousands of dollars worth of fine prizes in the past few months and I am going to continue doing so.

HURRY—Write Me Quick

Don't lay down this magazine until you have clipped out and mailed the coupon. By doing this you will get full information by return mail, telling exactly how you can get this wonderful boys' and girls' auto without it costing you one cent. Mail the coupon today—quickly.

T. JARVIS, The Auto Man, Dept. D, Springfield, Ohio

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Dear Sir:—I want the Culver Racer. Please tell me right away how I can get it free.

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Modern Exterior for the Old Home

(Continued from Page 5)

from the stucco mortar, and thus robbing it of the water necessary to affect a proper hardening of the cement. Usually two or more coats of stucco are applied, and it is common to add a pound of good cow-hair to each bag of cement used in the first coat to cause the plaster to form a good grip or bond in the meshes of the lath. Where two or three coats are to be applied, the first and second coats are usually marked or scored deeply on the surface with some kind of a scratch tool before the stucco has had time to harden, so as to roughen the surface and form a bond or grip for the next coat.

One of the desirable features of a stucco finish is, that practice, combined with ingenuity of the individual worker, permits the securing of quite a number of desirable surface finishes. Of course, a smooth finish is readily obtained by proper troweling, altho troweling with a steel trowel is not to be recommended, as the tendency is to overwork the surface, thus bringing too much fine sand and cement to the surface, and ultimately resulting in the formation of many hairlike cracks. A wood-float finish is smooth enough. Next to this a pleasing finish can be secured by covering the wood float or trowel with a piece of old burlap or carpet, and working the float with a circular or irregular motion.

The slap-dash finish is another finish coat, and it is secured by throwing the last application of stucco paste or mortar against the surface. To secure the desired effect, this requires considerable practice.

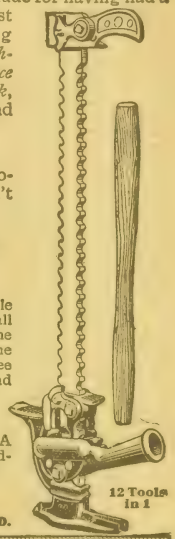
Old buildings usually give more satisfactory results under the stucco treatment than do new ones. Since all settlement of the structure is likely to have ended, the timbers in the framework are well seasoned, and with careful work there is nothing likely to cause cracking of the finished surface. To insure fullest success, which means watertightness of the stucco and permanence, it is necessary to protect the freshly plastered surface from too-rapid drying out. This may be done by hanging wet burlap or canvas a few inches away from the wall, and keeping this covering wet by frequent sprinklings for two or three days. Such treatment is particularly necessary on the sides of a building exposed to the sun, and likewise when exposed to strong drying winds.

Sometimes it may be advisable to paint the surface immediately ahead of plastering with a cement paste, consisting of pure cement mixed with enough water to form a consistency about like cream. In plastering over brick it is desirable to pick back the mortar joints slightly, as this will contribute to a better bond, or adhesion, with the wall.

The quantity of cement required to cover a given area with stucco finish depends largely upon the total thickness of the coats to be applied, but assuming three coats, each one-half inch in thickness, and that the mixture used follows proportions previously recommended, a batch of stucco in which one sack of cement is used will cover about seventeen square feet.

I Want to Tell You the Story of this Combination Tool

You can't see half its wonders by looking at it. That's why I want to send the tool to you. *Farmers, teamsters, auto drivers, mechanics, contractors* and *builders* are writing me letters every day expressing their gratitude for having had a chance to try this wonderful tool. "It is almost human," they say. It does almost everything —is a *single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter, alligator wrench,* and dozens of other things.



Send Your Name To Me

Let me make you my fair and square proposition for a trial of this tool. If it doesn't amaze you I don't want your money.

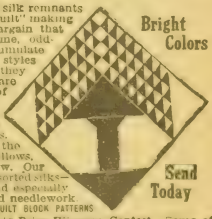
MEN—Here's Your Chance to Make Money

If you want to represent me and help me show men what this tool will do, I will give you a chance. I won't tell you here how much money some of my representatives are making every day. I am afraid you wouldn't believe me. When you see and try the tool you'll understand. I am building up a whole army of money makers all over America. It's the opportunity of a lifetime and if you have any free time you ought to find out about it. Just say, "I want to know about your representative proposition." A post card will do. Address me personally.

P. J. HARRAH, President
THE HARRAH MFG. CO.
32 MAIN STREET BLOOMFIELD, IND.

A BIG SHOWER OF SILK FREE

Can you use a big package of real silk remnants from a Necktie Factory? "Crazy Quilt" making is again very popular. Here is a bargain that will please you. Bright, handsome, odd-shaped and pretty colored goods accumulate very fast at Necktie factories; the styles were never so bright and pretty as they have been the past season and they are now burdened with remnants of many rich goods. We have purchased thousands of pieces from the factories which we have made up in assorted packages for our friends. Haven't you found it difficult to get the right assortment to put into sofa-pillows, quilts, etc? We can help you out now. Our packages contain the best quality assorted silks—all pieces are carefully trimmed and especially adapted to all sorts of fancy, art and needlework. We also give you 36 PRIZE WINNING QUILT BLOCK PATTERNS



These quilt block designs were selected from more than 800 patterns in a big Prize Winning Contest. Some of these are real historic designs, others are entirely new, but all of them are good and will appeal to the lover of beautiful and artistic quilts.

WE WILL SEND YOU FREE a big package of silk remnants and the 36 prize winning quilt block designs if you will send us 25 cents in silver or stamps to pay for a one year subscription to The FAMILY MAGAZINE. This offer may be withdrawn so send your order today.

The FAMILY Dept. M SPRINGFIELD, OHIO

I Want to Send You This Pretty Shetland Pony and Outfit FREE

"Beauty" is about 40 inches high and weighs close to 350 pounds. He is thoroughly broke to ride or drive and he is a fine pet in every way. He will play and romp and eat sweets just like a child; he is small, but very sturdy and he can haul a whole buggy load of people at a merry gait. "Beauty" will be just like a brother to you. If you could only see him, I am sure you would answer this advertisement right now and make up your mind to get him. When "Beauty" comes to your house, you will be the most popular person in the whole neighborhood. I will also give a fine set of harness, rubber-tired buggy, bridle and saddle—a complete outfit to some boy or girl who makes the little effort required to get him.

There are some people who will tell you that you cannot get a beautiful Shetland Pony and Outfit like this, without it costing you or your parents one cent, but do not pay any attention to such people for they do not know what they are talking about.

I am the original pony man and I have given away dozens of Ponies and Outfits to my boy and girl friends all over the country—I am the first man who ever gave away a Shetland Pony and complete Outfit absolutely free. Your Banker or Postmaster will tell you that I am a man of my word and I never fail to keep my promises.

I am a man getting well-up into years and it is a source of constant joy for me to give my boy and girl friends fine Ponies and Outfits and other handsome prizes.

Read every word of this advertisement—clip the coupon, sign your name and address and send it to me together with your solution to the puzzle. For doing this I will give you 5,000 Votes toward winning this handsome pony, "Beauty" and complete outfit of pony carriage, harness, saddle and bridle.

Solve the Puzzle and Get 5,000 Free Votes

The letters in the six squares, when properly put together spell a word mentioned in this advertisement. It is not difficult to find but it will be worth your effort to hunt for the word for I will give you 5,000 votes toward winning this dandy Shetland Pony and complete Outfit, which will be a mighty good start.

As soon as I hear from you, I will answer your letter and tell you exactly what to do to become the owner of "Beauty." I will tell you all about my simple easy plan for giving away Ponies and other grand prizes and you will be very much surprised when you find how easy you can get the very things that your heart desires—watches, knives, bracelets, silverware, guns, cameras, and dozens of other fine presents too numerous to mention. You can't keep from winning, if you will sign and mail the coupon at once, for bear in mind, I will pay you well for everything you do. Don't delay—sign and mail the coupon today.

Will Not Cost You One Cent

Wouldn't you be just the proudest and happiest person in the world if you owned "Beauty" and complete Outfit? You can do it too, if you will sign and mail the coupon now—right away. I have given away dozens of Ponies to boys and girls all over the country. They did what I know you are going to do, and that is, mail the coupon at once and get a great big start in the contest.

The contest is just starting and I want to see you start off with leaps and bounds—get a running start. It doesn't matter where you live—no one will have any advantage over you. I determined to give "Beauty" and outfit to some boy or girl for just a little spare time spent among neighbors and friends. This fine grand prize and the many other presents will **not cost you or your parents one cent.** I will do my level best to help you win—so, mail the coupon at once and get the 5,000 Free Votes. That is my first step in helping you.

My plan for giving away Ponies and other fine prizes is different from others. **EVERYONE WHO TAKES PART IN THE CONTEST GETS A PRIZE**—there are no losers. Get YOUR share of these fine presents in this grand prize distribution. REMEMBER, you get the EXTRA REWARDS right away. There is no waiting or delaying. Up in my big building, I have boxes and boxes of just the kind of presents that all boys and girls want and they are yours almost for the asking.

Coupon Good For 5,000 Votes

B	A	E
Y	U	T

MATT YOUNG, The Pony Man
Dept. A. Springfield, Ohio

Dear Sir:

My solution to the puzzle is ..... Please tell me how I can be the owner of "Beauty" and entire outfit. Also send me my Certificate of Entry and 5,000 Free Votes. I am going to win "Beauty" and I want you to tell me all about your easy plan.

Name.....

Town..... State.....

Box or R. F. D.....

Write Me Today

Don't delay another minute, but write your name and address on the coupon and mail it to me with your solution to the puzzle RIGHT AWAY. You can't expect to win "Beauty" and complete Outfit unless you make the start. Make the start NOW by mailing the coupon before you lay down this paper. Remember that **you are not limited to one prize alone**, you can secure many easily at the same time you are piling up thousands of votes toward winning "Beauty" and his Outfit.

The quicker you mail the coupon the better your chances will be for winning. Write me at once—TODAY—quickly.

MATT YOUNG, The Pony Man
Dept. A, Springfield, Ohio

SIGN YOUR NAME—MAIL TO-DAY

Cash Prizes For Our Women

OUR BY-PRODUCT CONTEST

If you have made the extra material. not needed by the family, a source of income, tell us how you did it. We want hard facts, not theories, and that means reliable figures as to how much material, what kind of material, and the time and fuel spent on the work, as well as the amount received for the finished product.

There are dozens of things on every farm that might be termed by-products that have been allowed to go to waste, and wherever a woman, or girl, has learned the secret of making the most profitable use of things—turning loss into gain, as it were—we want every reader to have the benefit of their experience.

For the most practical letter we will pay $3.00 in Cash. For the next best, $2.00, and for the third and fourth, $1.00 each.

All letters must be in by July 1, 1916, and the prize-winning letters will be published in the August number of Farm News.

Send all contributions to By-Products Editor, Farm News, Springfield, Ohio.

AN ECONOMICAL FLOOR COVERING

To find a satisfactory covering for the floor of dining-room and kitchen of the country home is quite often a vexing problem. If one is not particular as to color, a floor covering that costs little and wears well is made of ordinary roofing paper.

The best grade of roofing costs about $2.50 per roll of 100 square feet. The best grade of inlaid linoleum costs about $3.00 per yard long and two yards wide, making 18 square feet. To cover 100 square feet with linoleum would cost over $15.00. By using the roofing paper a saving of something like $12.50 is made. A farm-house floor thus covered, and after four years service, shows no perceptible wear. It is easily cleaned with soap and water.

The paper is laid just the same as linoleum, edge to edge (not lapped), and tacked. No cement is necessary in laying it. The edges soon stick together, and in a short time the floor appears to be covered with one solid piece.

Also, feed bins, grain rooms, etc., may be made waterproof and mouseproof if lined or covered on the outside closely with tarred paper. Rats and mice seem to have no desire to gnaw thru it. A cheaper grade of paper, however, may be used for this purpose.—Mrs. D. H. Morgan.

IRISH STEW STRAIGHT

One pound chopped beef, one and a half pounds chopped mutton or pork, five good sized potatoes, diced, three turnips cut in small pieces, two chopped carrots, one cup cabbage, chopped fine. Season with salt and pepper. Cover with two quarts of cold water after ingredients have been placed in alternate layers in stewpan, and simmer slowly for three hours. Stir frequently. Serve hot.—Frona Scott, Iowa.

From the elation people display at the feeble signs of intelligence shown by their infant children, one would suppose they had expected them to be imbecile.

FREE TO THE RUPTURED

5000 Sufferers to Get Free Trial Plapao

No Need To Go Through Life Wearing a Useless Truss

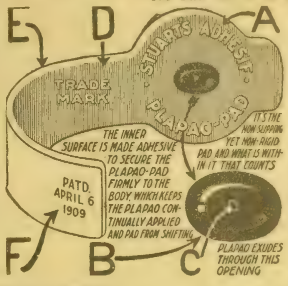
This **generous offer** is made by the inventor of a wonderful **"all-day-and-night"** working method which is to be used to **tone up** and **strengthen** the relaxed muscles, thereafter **doing away with painful trusses altogether**, and the necessity for **dangerous operations.**

NOTHING TO PAY

To the extent of 5,000 sufferers who may apply—Mr. Stuart will send a sufficient quantity of **Plapao without charge** to enable you to give it a thorough test. You **pay nothing** for this trial of **Plapao,** now, or ever.

STOP USING A TRUSS

Yes, **stop it,** you **know** by your own experience it is only a **makeshift,** a false **prop** against a collapsing wall, and that it is **undermining your health** because it tends to **retard the circulation** of the **blood. Why,** then, continue to wear it? Here is a better way, which you can now **prove** for yourself, free of charge.



USED FOR A DOUBLE PURPOSE

First. The primary and **most important** object of the PLAPAO-PADS is to keep **constantly applied** to the **relaxed** muscles the medication called **Plapao,** which is **contractive** in nature, and taken **together** with the ingredients in the medicated mass is intended to **increase** the circulation of the blood, thus **revivifying** the muscles and **restoring them** to their **normal strength** and **elasticity.** Then, and **not until then,** can you **expect** the rupture to disappear.

Second. Being made self-adhesive, **purposely** to **prevent** the **pad** from **shifting,** they **have** therefore proven to **be** an **important adjunct** in retaining rupture that **cannot** be held by a truss.

Hundreds of people **old** and **young,** have gone before **an officer qualified to acknowledge oaths,** and **sworn** that the PLAPAO-PADS **cured** their ruptures—some of **them aggravated** cases—and of **long** standing.

Mr. S. A. Fish, 750 Foster St., North Andover, Mass., states under oath:—"I regard my cure little short of a miracle for I am over 71 years old, and was so bad that I came pretty near answering to the last roll call. I only used Plapao-Pads for 90 days to effect a complete cure."

Mr. L. C. Jones, Merrill, Wis., declares under oath:—"I was cured while engaged in the hardest kind of work, and now my doctor says I am stronger than I was before. It was easy to see how your Plapao-Pads made the muscles firmer."

CONTINUOUS NIGHT-AND-DAY ACTION

A striking feature of the Plapao-Pad treatment is the comparatively **short** time it takes to get **results.** This is because the action **is continuous**—night and day, throughout the **whole** of the 24 hours.

There is **no** inconvenience, **no** discomfort, **no pain.** Yet **minute** after **minute**—whilst you are going **about your daily duties**—even while **you are sleeping**—this wonderful remedy is invisibly **infusing** the abdominal muscles with the **new life** and **strength** they **require** to perform their rightful function of **keeping the bowels** in place without the **artificial** support of a truss or device of any kind.

THE PLAPAO-PAD EXPLAINED

The **principle** upon which the **Plapao-Pad** works can be easily figured out by noting the accompanying illustration, and **reading** the following explanation:

The PLAPAO-PAD is made of a **strong flexible material "E,"** which **is** designed to conform to the movements of the body, and be **perfectly comfortable** to wear. Its inside surface is **adhesive** (similar to, yet **quite different** from an adhesive plaster)—**to prevent** the Pad "B" from **shifting** and **getting out of place.**

"A" is the **enlarged end** of the PLAPAO-PAD, which **overlies** the atrophied and **weakened** muscles to **keep them from giving away further.**

"B" is the properly shaped Pad, to be applied in such **a way that it blocks up the hernial orifice,** and tends to prevent the contents of the abdomen from protruding. Within the pad is a reservoir. In this reservoir there is placed a wonderful **absorbent-astringent** medication. As soon as this medication **is** warmed by the heat of **the body it becomes soluble and escapes** through the small **opening** marked "C" and is **absorbed** through the pores of the skin **to strengthen the** weakened muscles and effect **a closure of the openings.**

"F" is the long end of the PLAPAO-PAD which **is to be** plastered over the hipbone—**a** part of the frame-work of the body calculated to give the necessary **solidity and support** to the PLAPAO-PAD.

BRINGS ABOUT THESE BENEFITS

The results if successful in following this treatment **(as you can now prove for yourself free of charge)** are **wonderful.**

—The ruptured parts are **sustained** and **held together.**

—The weak **muscles** recover their **elasticity** and strength.

—The **unsightly,** painful and dangerous protrusions disappear.

—That horrible **"dragging down"** sensation is banished **never to return.**

—You **recover** the **vigor, vitality, energy** and strength you have lost.

—You once more are able to **enjoy life without fear of** trouble.

MAKE THE TEST FREE

Make **a personal test of its value. Send no money, for the Free Trial Plapao costs you nothing, yet it may bring** you a **Health-Restoration** more precious than **much fine** gold. Accept this free "Trial" today and you will be glad **you took advantage of this opportunity as long as you live.** Write a postal card or fill out the coupon **today,** and **by return mail you will receive the free trial Plapao,** with **a presentation copy of Mr. Stuart's 48-page book on rupture,** containing full information regarding the method which was **awarded a Diploma with** Gold **Medal at Rome, and a' Diploma with Grand Prix at Paris, which should be** in the hands of every sufferer of this dreadful affliction.

5,000 readers **can obtain this free treatment. The response is certain to be enormous. To avoid disappointment** write! NOW.

SEND COUPON TODAY TO

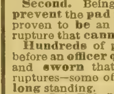
Plapao Laboratories, Inc.,
Block 609 St. Louis, Mo.
For **Free Trial of Plapao and** Mr. Stuart's **Book on Rupture.**

Name . ...

Address . ...

Return mail will bring Free Trial Plapao.

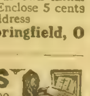
GIRLS This BEAUTIFUL GOLD SIGNET SEAL RING **FREE**



Just get **ONE** friend to give you 25c for **a** full year's subscription to **FARM NEWS**—send us the name and the quarter and we will mail you this elegant Ring (guaranteed for 5 years by the manufacturer) with your own initial engraved on it. Enclose 5 cents extra for postage. 30 cents in all. Address

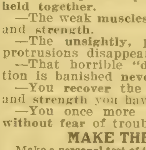
FARM NEWS, Dept. S-10, Springfield, O

CHART OF CHORDS



By using it anyone can play the Piano with a few hours practice. Sample with 160 Popular Songs and full instructions, by mail, postpaid, only **10** cents. Address,

Family Publishers, Springfield, O



FREE To every Boy and Girl. We give a fine Camera and complete outfit plates, chemicals, etc., with full instructions. Just send your name and address, we send you 20 large art and religious pictures to sell at 10c each. When sold send $2.00 and the camera and outfit is yours. We give 40 beautiful postcards extra for promptness; also a surprise gift extra for promptness.

People's Supply Co., Dept. FN
716 Lucas Ave. St. Louis Mo

Plays Columbia or Victor Records TALKING MACHINE FREE

A truly wonderful instrument. Reproduces any style music. Plays all disc records. Send only 25c for year's subscription to our monthly paper and 25c extra to cover cost packing, postage, etc., and machine will be sent you by parcel post prepaid. A marvelous offer to introduce

EVERYDAY LIFE, Dept. P43 . Chicago

FREE This Gold Plated Pendant (set with two sparkling similitude Diamonds) and regular Length Chain and this lovely Gold Plated Elite Bracelet (opens to fit wrist) and these 4 guaranteed Gold Plated Rings absolutely Free to anyone who sells only 12 pieces of Jewelry at 10c each and sends us the $1.20. We must you and take back all not sold. Address
J. D. DALE MFG. CO., Providence, R. I.

BOYS!

Get This Guaranteed, Watch FREE

I will give you this guaranteed, pure simulated gold watch as shown above for doing a little advertising for me among your neighbors and friends in your spare time.

The watch is 16 size, stem wind and stem set; has handsomely engraved back; adjusted to both heat and cold; patent lever escapement; dust proof case and is guaranteed by myself and the makers to be a perfect time-keeper. With the proper care and usage it will last and give entire satisfaction for years.

Send No Money

Just send me your full name and address today and I will write you all about my simple and easy plan for securing this fine watch. You will wonder how I can give away such splendid time-keepers without any money, but I am going to make you a present of it.

Don't wait—don't delay, but **send me your name and address at once.**

Address TYSON JARVIS
204 Washington St., Springfield, Ohio

Neck Chain and Locket

PREMIUM No. 4

LOCKET AND CHAIN

This beautiful Ladies' Neck Chain and Locket is gold plated, burnished in finish, with a long cable link chain, having a patent spring catch. The Locket is set with highest quality brilliants in the ever popular star and crescent design. These brilliants shine and sparkle like real diamonds. It is over 11-4 inches in diameter and can be engraved on the back. Secret dust-proof compartments for 2 pictures.

You can carry a photo of your sweetheart or your parents or any of your dear ones. This is not a cheap Locket (we do not give away cheap premiums to our workers). It resembles a Locket and Chain for which your jeweler would charge you $10.00. It surely is neat and tasty and is guaranteed to wear satisfactorily.

Special Club Offer

We will send free this beautiful Locket and Chain free and prepaid if you will send us a club of six yearly subscriptions to FARM NEWS at 25 cents each.

Farm News, Locket Dept. Springfield, Ohio

RAISE GUINEA PIGS for us. We furnish stock reasonable and buy all you raise at $1.00 a pair. Interesting literature free. Address: **Kline's Caviary, Dept. 3, Holmes Park, Mo.**

KIDDER'S PASTILLES For 50 yrs. standard relief for **Asthma** All druggists, or by mail, 35c
HOWELL & CO., Mfrs., Charlestown, Mass.

Our Fashion Department

Special Price of 10 Cents Each For All Patterns

7843—Ladies' Shirt-Waist—Sizes 36 to 42 inches bust measure. Waist slips on over head and sleeves may be long or short. Shoulder fronts are gathered and back fulness is gathered at waistline.

7821—Children's Rompers—Sizes 2, 4 and 6 years. Buttoned on the shoulder, has a pocket, and bloomers with a belted waist.

7836—Misses' Apron and Cap—Sizes 12, 14 and 16 years. One-piece apron with an elastic at the waistline to adjust it to the figure.

7818—Girls' Dress—Sizes 2, 4, 6 and 8 years. Closing at the left side, to yoke depth. Lower edges of the dress body are gathered under a belt, where the skirt with an under box-plait at each, is joined.

7832—Ladies' Shirt-Waist—Sizes 36 to 44 inches bust measure. Shoulder fronts are gathered and in the back at the waistline, the fulness is gathered under a stay belt.

7791—Ladies' Negligee—Sizes 36, 40 and 44 inches bust measure. Has deep cape collar, and an elastic band at a raised waistline brings the fulness into folds.

7243—Ladies' Skirt—Sizes 22 to 32 inches waist measure. Yoke and skirt are seamed at each side and closed down the centre of the front. Skirt measures 2¾ yards around the hem.

7817—Girls' Apron—Sizes 6 to 14 years. Cut in one piece, with square neck, cut out side sections and epaulet shoulder. Buttons at back, and belt section at either side front gives a semi-fitted model.

7826—Ladies' Skirt—Sizes 24 to 32 inches waist measure. Raised waistline and three gores. Outside belt is separate.

7816—Ladies' Dress—Sizes 34 to 44 inches bust measure. Closing a bit to one side, buttons going all the way down the seven-gored skirt which may be made with an under box-plait or with habit back.

USE THIS COUPON WHEN ORDERING. (Cut it Out)

FARM NEWS, PATTERN DEPT., SPRINGFIELD, OHIO

Enclosed please find $.....for which send me the following patterns (Price 10c each). Order by number:

No..... Size..... Name.....

No..... Size.....

No..... Size..... Address.....

No..... Size..... Full..... in

PUZZLEWITS

1. Central Letter Change

The FIRST of our burg is a civil war vet.
His title was SECOND; they call him that yet.
Hawley, Minn. KAPPA KAPPA.

2. Concealed Fish

G E L T E L
R O M A R E
N U S C K P
B T H O I S
A I D A R Y
S S L D O K

Find the names of twenty or more fish among the above letters, by using only those letters that join each other, either up, down, across or diagonally.
New Bethlehem, Pa. BOB O'LINK.

3. Numerical

My 1, 2, 3 to sleep or doze.
My 4, 5, 6 your friendship shows.
The 1 to 6, when you have dined,
Will wipe your hands and chin, I find.
Duquesne, Pa. TIM PENNY.

4. Jumbled Birds

1. Rlka. 2. Kocouc. 3. Nwer. 4. Broni. 5. Ranacy. 6. Rapwors. 7. Gipone. 8. Toaprr.
Warren, Mich. MAY PET.

5. Beheadment

Take a large bird and pull of its head,
And leave a garden tool in its stead.
Mamoth Spring, Ark. J. M. VAN.

6. Drop Letter American Towns

1. -u-u-u-. 2. O-o-o-o-o-. 2. A-b-q-e-q-e. 4. -s-a-a-a. 5. -a-a-a-o-. 6. A-h-a-u-a.
Mayport, Pa. SAMMY.

Prize Offers

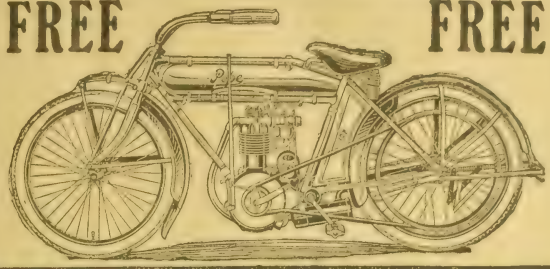
Best list of answers to this month's puzzles, $1.00. Second-best list, a good story book. A record of all other answers will be kept, and when twenty-five puzzles are correctly solved, a book will be sent to the solver. Original puzzles will count as three points to the author, when published.

Send your answers every month. A record is kept and you are sure to win a prize in time. Answers to these puzzles must be received on or before the last of this month. Send answers and new puzzles to Uncle George, FARM NEWS, Springfield, Ohio.

BOY CONVINCES FATHER BY DOUBLING YIELD

After Oscar Brinkley, of Montgomery County, Ohio, raised an average of 45 bushels of wheat per acre, his father was convinced that his method was just twice as good as the one that they had been using which gave them an average yield of less than half that amount of grain. Back of the 45-bushel per acre wheat field is a story of how the father objected to his son "throwing away" money in buying fertilizer and applying it at the rate of 300 pounds per acre. He tried to convince his son, but Oscar had a vision of doubling the yield by paying attention to feeding the crop, and refused to believe that he was throwing money away. The elder Mr. Brinkley surrendered when the field that had been fertilized yielded 45 bushels wheat per acre.

FREE FREE



To Be Given Away

The $200.00 Pope Motorcycle shown above is going to be given away absolutely FREE to the person who makes just a little effort to get it. This is the greatest opportunity you ever heard of for owning the very latest, 1916 Model Motorcycle. It has all the latest improvements—it is speedy, reliable and has stood the most severe tests for a number of years.

It is standing here on the floor now—a brand new machine ready to be sent to some one ABSOLUTELY FREE and PREPAID. Do you want it? It will not cost you one cent—all we ask in return for this elegant machine is that you will do us a little favor now and then during your spare time.

I have given away many Motorcycles to my friends all over the country—this is YOUR chance to own one without a penny of cost.

Many Other Fine Prizes

The $200.00 Motorcycle is not the only present I will give you, for I have dozens of other handsome prizes that will be yours almost for the asking.

Watches, Base Ball Outfits, Cameras, Bicycles and many other prizes, too numerous to mention, will be given you without cost. You can't keep from winning if you will send me your name and address today. You will be handsomely paid for everything that you do.

After you have mailed the coupon and heard from me, you will agree that my plan for awarding Motorcycles and other grand prizes is the easiest of all. You will be surprised at what a simple matter it is to get most anything your heart desires.

Send Your Name and Address

Fill out the coupon below and mail it to me at once with your solution to the puzzle. The letters in the nine squares, when properly put together, spell three words. The first word has four letters, the second word has two letters and the third word has three letters. The words are mentioned in this advertisement. Send your solution to the puzzle with your name and address and we will tell you how to win the $200.00 Motorcycle and the many other handsome prizes.

Remember, you can't lose—it is EASY to WIN the Motorcycle and the many other dandy prizes if you will act promptly and mail the coupon at once. Don't wait—don't put it off, but write at once.

D. BRYDON, Mgr.
28 Wittenberg Ave.
Springfield, O.

Fill Out Coupon—or Write TO-DAY

A	S	E
Y	T	O
W	N	I

D. Brydon, Mgr.,
28 Wittenberg Ave.,
Springfield, Ohio.

Dear Sirs:—
The letters in the nine squares spell
.....
Please enter my name for consideration in awarding the $200.00 Motorcycle and the many other grand prizes.

Name .....

Postoffice .....

State .....

St. or Box No. .....R.F.D....

Works Like a WINCHESTER 1,000 Shots

FREE AIR RIFLE

This is a splendid, strong, and accurate repeating Air Rifle, shooting 1,000 times with one loading. It is made of the best grade of steel, nickel-plated parts, black walnut stock and looks like a Winchester. It is built to shoot. Just the thing for small game. Has many features of a powder and ball rifle. It is a real gun, every inch of it, and a beauty, too. Write today for our big free offer. Send no money, just your name and address, saying you want the Repeating Air Rifle. Address, FARM NEWS, Dept. 13, Springfield, Ohio

$1500.00 In One Month By This Man

Mr. H. W. Eakins is the man—he made it with one of my Crispette Machines—paid his last $10 for rent of a store window—at the end of 30 days he had $1,500 clear profit in the bank. Today he is independent—so good a man that he is now a part of this organization—and has charge of all the sales. You will meet him if you come to Springfield. He will tell you the wonderful story of his success—show you how it is done, so that you too, may succeed.

I'll Help You Start in the Same Business

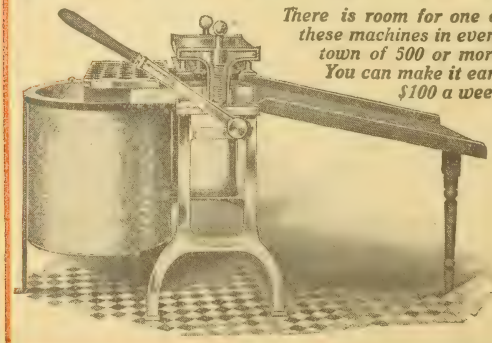
Help you to follow in Mr. Eakins' footsteps. Quit earning just a bare living. Stop waiting for something better to turn up—go out and make fortune smile on you—build up a big paying business.

Experience is unnecessary—others are doing it—you should do it. Think of the fortunes made in five-cent pieces—street cars, moving picture shows, chewing gum, 5c and 10c stores. Everyone will spend a nickel—everyone likes Crispettes—children, parents, old folks. You can start anywhere, in a store window—small store room, or the kitchen of your own home. The start is the important thing—the Crispette Machine and Long's secret formula will do the rest—a sure way to independence and fortune—MAKE MONEY FROM THE START.

This is the largest and handsomest confectionery store in Springfield—I own it—and every penny is due to popcorn crispettes and a crispette machine. It has made me rich—independent—it can do the same for you.

Every Nickel Sale Nets You About 4 Cents Profit

Every 20c invested returns practically $1.00 cash. Not theory—not guess work—not imagination—but the actual proven records of Crispette merchants from one end of the country to the other. **The world hungers for the different and pays dollar-after-dollar every year to satisfy this desire.** Why not be the one to satisfy the demand in your locality and reap your share of the golden harvest now ripe and ready? What salary do you earn—what salary do you get? What you receive from your employer represents but a small portion of what you really earn—get on the other side—take only what you want—all that your ability will permit. I'll help you—make you a partner in this wonderful opportunity—sharer in all the profits of your efforts. It is certain—it is easy.



There is room for one of these machines in every town of 500 or more. You can make it earn $100 a week.

Come to Springfield at My Expense

Within a radius of 300 miles of Springfield I will pay your expenses if you buy a machine. Come to investigate every phase of the business—make us prove every statement beyond the question of a doubt—make us show how the **enormous, honest, legitimate profits are made with such a small investment** and light running expenses—make us convince you that any man of ordinary intelligence, ambition and energy can make a Crispette Machine pay for itself in a few weeks.

Fill in the coupon—send for free book, "DOLLARS and SENSE." It tells the whole story—how and where to start—how to succeed—gives the experience of others. It is worth reading even if you do not start. If you are looking for a good proposition—a big money maker—send today for this book.

W. Z. LONG CO., 791
High St., Springfield, Ohio

W. Z. LONG CO.
791
Springfield, O.

Without any obligation at all, please send me free your book, "Dollars and Sense In the Crispette Business."

Name .....

Address .....

FAS Ag sem

FARM NEWS

Published at Springfield, Ohio

JULY 1916

How to Save Your Hogs From Cholera—See Page Four of This Issue

$60 A WEEK AND THIS FREE AUTOMOBILE

I OFFER this Big Money and a FREE Automobile to one hustling Representative in each county in the U. S. This is not a contest. Every agent can get a FREE Automobile and $60.00 a week. You don't need experience. I want you to advertise, sell and appoint sub-agents for the **Robinson Folding Bath Tub.** It's a whirlwind seller. Solves the bathing problem. No plumbing, no waterworks needed. Full length baths in any room. **Folds in small roll.** Won't leak. Self-emptying. *Ten-year Guarantee.* Rivals $100 bath-room. Never such a big seller; never such a big money-maker. Never such a liberal offer as this. **Think! $60.00 a Week and FREE Automobile.**

Exclusive Territory. 100% Profit.

Backed by 10 Year Gold Bond Guarantee

Sell 2 Tubs Daily—Make $300.00 Monthly

It's easy. You can do it. J. H. Brown, N. J. says: "14 calls, 14 sales. How's that" ($70 profit). R. C. McCartney, Mich., says: "Sold 5 tubs in 15 hours" (42% profit). "Sold 6 from noon to night," says J. A. Hembd, S. D. ($30 profit). Ned Bolles of Idaho, sold 8 first afternoon. ($40 profit). H. M. Velzy, N. D., sold 10 in 3 days. ($50 profit). W. A. Glueckler, S. D., sold 11 in 3 days. ($55 profit). A. R. Engle, Mont., got 11 orders in 2 1-2 days. (Addresses furnished on request). You can do as well as these men. You can sell 2 a day. That means $60 a week, clean profit, and a big, speedy Touring Car Free. Little capital needed. I grant credit to deserving men. Furnish you with a Demonstrating Tub, on liberal plan. You can't lose. 70% of the homes have no bath-room. They need the Robinson Tub. Just show this in YOUR chance. Quick sales and immense profits. FOLDED tub; take the order. Write today for Demonstrating Tub and FREE Automobile offer. Don't delay. Get busy.

Demonstrating Tub Furnished

H. S. Robinson, Pres., THE ROBINSON CABINET MFG. CO., 4261 Factories Building, **Toledo, O.**

I Am Making Money for Men—Are You One of Them?

I ran a full page advertisement in this paper February. I was looking for men—for money-makers. It was on the 2nd cover. Did you see it? Did you answer?

Many hundreds of men answered and are now working with me. Some of them are going to be big money-makers. Some will fail. That's natural. The big thing for you to think of is that I want to hear from you. I've got some straight, money-making talk for you and I want to get it off my chest.

The Chance Is There

It Is Alive Now—Don't Wait—Write

I want you to work with me in the selling of a marvelous tool. That doesn't sound so wonderful, eh? That's because you don't know the story. You don't know how just common everyday men like you and me are making $25 to $50 a day.

That's the big story. The tool looks simple enough in the picture, but it's a single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter and alligator wrench, as well as a lot of other things. Farmers, teamsters, auto owners, mechanics, contractors and builders buy it on sight. But never mind that now. You write. I'll tell you the big story of profits. Don't make a fuss about it. Just send me your name and address on a post card. Address

P. J. HARRAH, President

The Harrah Manufacturing Co. 32 Main St. **Bloomfield, Indiana**

WE MUST ECONOMIZE

"Jane Ann," the husband sternly cries, "we simply must economize. To-day I got the grocer's bill, and I experienced a chill. You're buying all expensive stuff, when cheaper things are good enough.

"You've blown yourself to fruits and jams, and bottled goods and fancy hams, imported raisins, prunes and peas, and costly slabs of sweitzer cheese. There is no sense in that, say I, when Cost of Living is so high. I strive and struggle in the mart, and break my galluses and heart, to have some roubles put away, against the cold and rainy day. But what's the use? A reckless wife will nullify man's toil and strife.

"In olden times the housewife made such things as jam and marmalade. She did not to the grocer chase for costly things, to feed her face. My sainted mother made preserves—I wish that you could watch her curves. She bought tomatoes by the crate, and made our catsup, simply great. She filled the cellar shelves each fall with stuff she canned, from wall to wall, and when we wished some pickled greens, or prune preserves or jellied beans, she pulled a package from a shelf—the real hot stuff she canned herself.

"The modern housewife never tries in that way to economize. She loafs around the house all day, and reads the works of Bertha Clay, or writes a paper for her club, and orders pre-digested grub. This sort of thing will have to cease, as sure as you're your uncle's niece. I dread the poorhouse, day by day; it's but a few short versts away, and if you don't cut down our bills, full soon we'll jaunt across the hills, to that abode of grief and care, and with the paupers sit and swear."

We see him later at the bar, where all his thirsty cronies are; he's saying, generous and free, "Step up here, boys, this round's on me!"—Walt Mason, in Judge.

"That feller Morgan Buttles is terrible unpopular," said one mountaineer.

"We'll have to git rid o' him somehow," replied the moonshiner.

"Yes. But we don't want to do nothin' in a way that ain't legitimate an' customary. You know he has political ambitions."

"I've heard so. But he ain't got no pull."

"Yes, he has. An' you an' your relations want to stand back o' me when I put the case up to our congressman. We'll git Buttles app'inted a revenue inspector an' then let nature take its course."—Washington Star.

Customer—But why have rabbits gone up so in price? They're wild ones, aren't they? So you can't say it's the cost of keeping them!

Shopkeeper—No, mum; but since all the best shots have gone to the war it takes so many cartridges to shoot them."

"Does advertising pay? I lost a $5 bill on the street."

"Well?"

"I advertised, and so far I have received three $5 bills."—Pittsburgh Post.

"If a man has the price he can get anything he wants and the way he wants it."

"Don't know about that. There's the medium-soft-boiled egg."—Browning's Magazine.

Subscription Terms

Farm News is published monthly and is edited with scrupulous care for the benefit and interest of the farmer and his family.

The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give and old as well as new address. Please write plainly Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI — JULY 1916 — Number 7

GETTING A PRICE FOR HIS PRODUCT

We do not believe there is a reader of this paper in any part of the country who is not always anxious to get the top price for any product, which he may have to sell, and any individual or farmer who tries to beat him out of a profitable price for his product would not be a welcome visitor in his home.

We all want what we think is coming to us. None of us like to work day in and day out for weeks, creating something for a market and then find that some concern or individual has upset the dope, and the product must be sold at a loss.

If you have a big wheat crop this year and you think you are going to get $1.25 a bushel for it at market time, and find that the market has been manipulated in such a way that you get only 60c, you certainly are not in a happy frame of mind.

The question of price maintenance and the profit for labor of all kinds is one of the greatest questions of the day. Probably nothing is more discouraging than to expend time, money and labor on some kind of product and then be compelled to sell it at a loss, especially if the thing that you have produced is of a high-grade and good quality, and you are being undersold with a cheaper, worthless article.

Suppose you, as a farmer, produce an extra good quality of butter that, we will say, is worth 30c a pound the year around, and for which you have established a regular market, and the price obtained gives you only a fair margin of profit for all of your hard labor. Someone comes along with an inferior grade of butter and knocks the bottom out of your price, and you must sell it at a loss.

The farmers of today are just as big merchants and just as much interested in merchandise as the manufacturers and storekeepers. Their product amounts to probably ten billion dollars a year, and it is pretty hard to find any other set of men who have a bigger business; therefore, the price-maintaining question is just as paramount with you as it is with anyone else.

There is a bill pending before congress known as the Stevens' Bill, the purpose of which is to regulate and maintain established prices for established goods. It is a bill which from many angles has considerable merit, and one that is well worthy the careful study of every farmer.

If you find that supporting the Stevens' Bill will aid you in getting better prices for your products, then the thing for you to do is to support it. When the manufacturer gets better prices for his product, it only follows that you will get better prices for yours.

When we have a panic in this country nobody is prosperous. Everybody is losing money, and we all know what a panic means. When everybody is prosperous and everybody making money, we have what we call good times.

If you think the Stevens' Bill has merit, and is worthy of your support, write to the senators and congressmen at Washington, and ask them to vote for its passage.

WINNER IN PONY CONTEST

Mark J. Bowman, R. R. 1, Box 83, Lebanon, Pa., was the winner in the Pony Contest which closed June 20, 1916. The outfit consisted of pony, carriage, harness, saddle and bridle. We are just starting a new contest, announcement of which is given on page 18 of this issue.

A NEW BOOK FOR HOGMEN

"Growthy Hogs" is the title of an attractive book just issued by Montgomery Ward & Co., Chicago and Kansas City. Within its pages is to be found valuable information for the hog raiser, presented in an interesting and readable way.

This is probably the most complete book of supplies for the hog raisers ever issued by one concern, and this fact, coupled with the unusual manner in which the whole subject is presented, should make the book of real value to every farmer who raises hogs. A copy will be sent postpaid, without any charge or obligation, by either the Chicago or Kansas City store of Montgomery Ward & Co. A copy of this book may be had, free, by mentioning Farm News.

$5,000.00 PICTUREGAME ANNOUNCEMENT

Many of the contestants in our $5,000.00 Picturegame took advantage of the full time to return their answers. All books bearing postmark of June 1, under the rules of the contest, were accepted, and as a result our office was overloaded with mail for some days after the official closing. This necessitated quite a lot of work, which, piling in upon us at one time, made the task of judging one of great magnitude.

Every answer submitted is being scrutinized with great care, taking much time and work. We feel that it is due those who helped make the contest such a magnificent success that their answers be given careful consideration — and we want to be perfectly fair and honest.

It is hoped to have the contest decided so that announcement can be made in the August number of FARM NEWS. We ask your patience.

SIMMONS PUBLISHING CO.

SPECIALIZATION

This is a word that most farmers shy at, principally because they do not understand what it means. Any time you put a little more effort, a little more work on any given product, you then become a specialist. Probably on a small scale only, but nevertheless a specialist.

And the day is here when we will have to specialize. The man who does not use special care in preparing his seed-bed, in selecting his seed, in his planting and cultivating is in a fair way to fall so far behind the procession that he will have to whip up to catch it again. One has only to look about him to see the results of special effort. One man owns a new automobile; another has a big, commodious silo; another a light farm tractor, and so on—all the result of special effort.

Women on the farm dress better, have more convenient kitchen equipment as a result of specializing in the poultry-yard, in the milk house. They specialize in marketing their products, and they get the best price obtainable, which is always the case when city folks learn that what you have is better and fresher than can be secured at the grocery.

EVIDENCE OF THRIFT

One of the first evidences of thrift in any young man, or old, either, is a life insurance policy. It shows for one thing that he is honest, and is trying to take care of the persons who back him in case he dies. And it also shows that he is looking forward to the future. Many a farm has been saved thru the existence of a life insurance policy.

In this matter of life insurance, a man usually gets just what he pays for. The insurance companies are not charitable institutions, giving something for nothing, but they are business organizations, managed by hard-headed business men, who know to the fraction of a cent just what amount of money will care for a policy at its maturity. There are, however, many unprincipled agents who will represent to a prospect that the policy he will get is an endowment when it is a limited-payment life policy. But there is always some reliable insurance man in every community who will give you the straight of your contract. Deal with your home agent. Many times it will happen that a man on the ground can give you the benefit of his experience, and show you just how you can save your policy and the money you put in it

115,000 Hogs Saved From Cholera Last Year by Immunizing Treatment

By J. C. Jones, Veterinarian

SO MUCH has been written lately on the subject of "hog cholera and its eradication" that the farmer is probably tired of reading about it; but since it is a subject of such vital importance to the hog-raiser, and the results obtained in this section from the use of serum and virus prove beyond any question of doubt that this disease can be successfuly prevented, we feel it is our duty to give to the readers of this paper the benefit of our experience, which covers a period of five years of special work on hogs.

The first year we treated only 4,000 hogs, and this allowed us to keep close watch on every herd, and know where we succeeded and where we failed, and the reason for success or failure.

Any new theory has a few friends and many enemies, and the theory of immunizing hogs against cholera is no exception to the rule. The farmers were skeptical, and it was the veterinarian's duty to furnish the proof by practical application and demonstration. This meant the sacrifice of much time and money for the first two years.

We have always made a practice of visiting a herd where some have become sick after treatment, because the owner would invariably lay the blame on the serum and virus. You no doubt remember the foolish notions some men had about fertilizer when it was first used. No matter what the weather conditions were, or if the farmer had out more wheat or corn than he could properly tend, if the crop failed, and he had used fertilizer for the first time, he believed that to be the cause of failure.

There were men, too, who would not eat bread made from wheat grown on ground where fertilizer had been used.

The same mistaken ideas exist today in the minds of some men regarding the meat of hogs immuned against cholera. They think we poison the meat of a hog by the use of serum and virus. This idea is rapidly changing, however, and many men in this section who would not eat meat from an immuned hog three or four years ago, can't understand why they ever had such foolish ideas.

We are treating hogs today for men who were so bitterly opposed to it a few years ago that they felt their neighbors were doing them an injustice by having their own hogs treated, for they had the idea that when we immuned hogs we gave them a mild form of cholera, and that infection would spread to his herd. The only way we could spread cholera by this method of treatment would be to spill cholera blood (virus) on the hog or on the premises, and we take every precaution against this. The best proof that we clean a farm of cholera germs, instead of leaving more and more each time, is the fact that on a farm where, five years ago, we immuned our first herd, and have immuned every pig since the owner bought 25 shoats that were not immuned, and turned them in with what he had raised and altho they have been fed there for nearly five months, cholera has not developed.

Quite a number of interesting experiments have been conducted here by the farmers themselves, but space will not permit explaining all of them. The fact that we immuned only 4,000 hogs the first year, and last year, with the aid of four other veterinarians, immuned 115,000, is proof that the hog-raisers in this section of country are convinced that it is no longer guess work.

We know more about hogs and their diseases, and if called to treat sick hogs, we do not go ahead and administer serum, and then, after the herd is half dead, find out that they had worms or pneumonia or some other disease. If any doubt exists we "post" a sick hog from the herd. Serum will not kill worms nor will hog powders prevent or cure cholera.

We know more about anti-hog cholera serum, its manufacture, the use of it, and how to keep it until used. We are getting better and cheaper serum than we did five years ago. There were many things at that time to discourage the farmer against its use.

As soon as the success of the serum treatment was assured, plants for its manufacture sprung up everywhere like mushrooms. Most of them were after the dollars and cared nothing for the possible injury that was bound to follow by the misuse of the serum. Serums, good and bad, were sold to anyone who could pay for them, and even the good serums which fell into the hands of ignorant and incompetent men, who had no knowledge of its proper use, helped to destroy the confidence of many hog-raisers in the serum method.

As a result farmers believed in a great many instances, that the serum remedy was worse than the disease—that it killed more hogs than cholera.

The government should have supervised the production of serum from the start and not permitted anyone to use it until he had been thoroly instructed. If this had been done the farmer now would probably not be so prejudiced against its use.

It has been proved beyond all doubt that serum loses its potency if subjected to changes of temperature, and it must be kept in cold storage until ready to use, and then warmed just before injecting. The manufacture of serum is now under government supervision, and competent inspectors are in charge of all serum plants. The irresponsible serum manufacturer is being put out of business, and every bottle of serum sent out for commercial use bears the license number and a serial number, so that any bad effects, if reported to the veterinarian, may be traced by the inspector, and the responsibility fixed, either with the serum manufacturer or the veterinarian.

Too much emphasis cannot be placed upon the importance of keeping the serum in cold storage. Subjected to heat, the serum is more susceptible to putrefaction than meat, and no one would want to eat a piece of meat after being exposed to summer heat for twenty-four hours. To administer the serum after it has been exposed to

Showing proper way to hold pig to expedite work. Note glass jar in which virus syringe is cleaned. Vessels on table contain anti-septic solutions

heat for a length of time, and has become putrefied is fatal. It is only thru ignorance or carelessness that this could possibly occur. Too much stress cannot be laid upon the care and storage of the serum previous to its use.

A very common mistake made by both manufacturers and veterinarians is that the treatment with serum alone will do the work. It will where cholera is surely present and every animal given the serum treatment is affected, but this is not always the case.

My first experience was on a farm where all the hogs had died or been shipped, except eleven sows. They were the last to be affected, and six were visibly sick, and the other five had high temperatures. We saved seven by using the serum alone. No recurrence of the disease ever occurred in these sows, because every one had had cholera, but I learned that unless every hog has the disease when treated, the serum alone is worthless as to those not infected.

The immunity produced by serum alone lasts only about four weeks, and there are hogs in nearly every herd that do not pick up a sufficient number of cholera germs in that time to cause the reaction necessary to produce permanent immunity.

I treated several herds where there were hogs showing visible signs of cholera and post mortems proved its existence, and many other animals in the herd showed high temperatures. According to instructions from serum producers, all of these herds were treated with the serum alone. A few weeks later there was a second outbreak of cholera in these herds.

That settled the serum-alone treatment with me. Hogs that had actually had cholera, of course, were immune from this second attack, but the others which had been treated and did not have cholera previously, suffered in the second attack.

The serum-alone method, as recommended by many supposed authorities and serum producers, and their recommendations as to the use of virus, has done much to injure the business of immuning hogs.

I will admit that it is not necessary to inject virus into a hog that already has cholera, but where is the man who can look at a hog and be absolutely sure that it has cholera? From my experience, I do not believe that I ever lost a hog by the injection of virus that would have lived without it.

Infectious pneumonia is sometimes easily mistaken for cholera, as the symptoms are quite similar and a post mortem is the only safe way to find out. High temperature, while indicating a disordered condition, does not give correct information as to whether a hog has cholera, worms or pneumonia, all of which are prevalent, and whose symptoms are so near alike as to be almost impossible to tell accurately without a post mortem on a hog from the herd.

Some time ago I engaged Dr. A. T. Kinsley, of the Kansas City Veterinary College, acknowledged to be one of the greatest pathologist in animal diseases in this country. Thirty head of hogs from eight farms in four counties were purchased and brought to my office, where post mortems were held by Dr. Kinsley, myself and assistants. Farmers all thru the territory were positive that cholera was causing the destruction of their herds, but I did not believe it, and wanted to show them. Out of the thirty head, twenty-seven showed that they were affected with infectious pneumonia—a disease prevalent in Germany, but never before assuming what might be called serious proportions in this country.

Basket in which virus and serum are carried from place to place. Ice chamber is in right side of basket

The farmers have been converted to the post mortem and to the wise conclusion that they can afford to sacrifice one hog from a herd and save the others. There was an ungrounded belief last year that pneumonia was conveyed thru serum, but such is not the case. Cholera is a disease in which the germ is found in the blood. Pneumonia germs are found in the air chambers and passages of the lungs—hence, there could not possibly be any spread of the infection from serum.

Now that we are safe, so far as obtaining reliable serum and virus is concerned, thei is no reason why hog cholera cannot be tamped out. Get together, and make up your minds to do it. Put the matter up to your veterinarian, and leave the selection of serum and virus to him. He is better qualified to do this, after visiting different serum plants, than you are; besides, he can keep the product in good condition after receiving it, knows when he opens a bottle whether or not it is fit to use, and is better qualified to determine just when to use serum and virus and when it is best not to use it.

This is very important in the beginning of a campaign against cholera, because, as a rule, the farmer waits until part of his herd is sick, or at least until his neighbors' hogs are sick, and even tho his hogs look healthy, they may already be infected, and if he loses any, places the blame on the treatment.

Last fall, a farmer near here was ringing his hogs, and remarked to the helper that he had never raised a better lots of shoats. Every one seemed in perfect health. Three days later some were sick, and in a week all were sick. There were three sows in the herd that had been immuned, and, as they were not sick, the owner decided it must be cholera, and not the ringing, that put them off. We "posted" three shoats, and the indications were that cholera had been present in these hogs for two or three weeks, and all that was necessary to cause it to show quickly was to heat them up by ringing, dipping, or treat them with serum and virus. If these hogs had been given the serum and virus treatment on the day they appeared so healthy to the owner, do you think he could have been convinced that his hogs were infected with cholera? Don't you think he would have blamed the treatment? We did not treat those shoats, as they were too far gone, but treated 29 pigs, two weeks old, from the three immuned sows, and left them in the field with the sick hogs until all had died, but the pigs never showed anything wrong. This farmer is now convinced that pigs can really be immuned for life. The three sows were treated three years before, when they were only one month old, and they went thru this outbreak all right.

The proper time to treat pigs is when they are not more than four weeks old. Treated at this age they are immuned for life. The length of immunity will depend upon the virulency and the amount of cholera blood used in immuning a hog, and the man who is afraid to use cholera blood (virus) had better stop trying to immune hogs.

On one farm we tested 140 brood sows that I had immuned from one to three years before. Fifteen of these had been treated while suckling pigs. In this test we injected two cubic centimeters of cholera blood into each sow—a double, fatal dose, and not one of the 140 developed any signs of cholera.

You cannot find a man for whom I have immuned for three years regularly who is not absolutely satisfied that cholera can be wiped out. It can be done on any farm, or any number of farms, in from two to three years. If cholera is to be wiped out in a county, every hog in that county, except those ready for market, should be immuned in March, April, May and June. All the breeding hogs and spring pigs are then treated, and the summer and fall pigs should be (Cont'd on page 14)

Portion of heard of 751 hogs in which 126 brood-sows were treated without one aborting

Draining Hardpan Soil

An Illinois Farmer's Experience in the Redemption of Land Not Considered Good Even for Grass

By Thomas M. Cisel

HARDPAN is encountered in almost all soils, and the amount of damage it can do depends upon how near the surface it is located. Level land and hillside alike suffer from this stonelike formation. On hilly lands, it usually nears the surface about three-fourths of the way down the slope, and feeds a steady sheet of water out over the lower levels until the higher levels are drained.

In the growing season this condition results in the water-killing of large areas of crops. The side-hill hardpan is always found with the water active, usually coming to the surface as a spring at the point where the hardpan crops out. As water cannot penetrate the hardpan, it must follow along its surface to some place of escape, some open cavity to the water-bearing level below, or come to the surface where it can evaporate.

The most destructive hardpans are found on level soil, such as many of our small prairies and sand-flats. Here in Illinois it is usually near the surface, and the lack of fall makes the movement of water very slow, if at all practicable. The surrounding higher levels empty this water upon the lower level areas, and the soil becomes so filled with water that it stands in shallow ponds during the wet season, killing any crops growing upon the fields. The only ways nature has provided for the removal of this water is by evaporation, and the slow gravitation over the surface of hardpan that has but a few inches of fall in a number of miles.

Southern Illinois has large areas of this level hardpan land, both clay and sand, and for many years it was considered almost worthless for grain farming, and none too good for grass. When drain tiling proved a success on some of the nearby swamp-lands, it was thought it would prove valuable on these level hardpan soils. A large amount of tile was put in on soils where the hardpan was at about the same depth as the drain ditches. The result was a poor draw, the only water reaching the tile having to come from directly above, and carried with it a washing from the hardpan that soon sealed the joints and outer surface of the drain, forming a tough claylike coating. In one year the drains were almost worthless, as they removed but little water. When there was room to place the drains well above the hardpan it worked nicely, but on the areas where the hardpan was within three feet or less of the surface it proved a failure.

Many people do not understand what hardpan is, some thinking it is only a bed rock or shale too near the surface. Others have formed the idea that such land is past reclaiming, and that any land that overlays hardpan is poor and hard to work. Such soil does become water-killed, and works hard at all times, because when not too wet it becomes hard and sun baked.

Showing strata after blasting the second time to shatter hardpan. Nos. 1 and 2 show the relative thickness of hardpan formations

I have never yet found a soil that would not respond to proper drainage and cultivation. Perhaps it will require two years to get a free-working soil where it has been badly water-killed. When the water is removed and the soil cultivated at the proper time, and in the proper way, it will greatly improve. There are few, if any, hardpan soils but are located above deep beds of water-bearing sand or porous clay that will quickly take up the surface water if it reaches it. The hardpan shell once destroyed will allow the water to pass downward into this natural drainage system, and the surface water will be quickly removed.

The only way hardpan can be destroyed, or broken up, is by blasting, and this method, when properly followed, will make good farming land of almost any hardpan soil. While a somewhat new method of draining, it has proved successful in thousands of cases, and each year large areas of cull land is being turned into good farms by its use. It is not uncommon to encunter two layers of hardpan, one below the other. One will be found to be the main pan, covering the entire area, while the other will be sectional, here and there in patches, with wide open spaces separating them, not unlike islands in a lake.

These conditions are many times responsible for failure to secure satisfactory results in soil blasting. The upper pan is blasted while the lower is not found. In such cases there can be no beneficial results until the lower pan is broken up or destroyed. When both have been shattered the water will quickly gravitate downward, and form open channels to the water-bearing stratum below. The expense of shooting hardpan is not so great but what any owner of such land can do the job and get his money back in two average crops after the soil is in shape to produce. It is more quickly done than tiling, the work is lighter, and the expense is but little, if any more.

To properly shatter the pan, shots should be placed one rood apart each way. Thus a section of ground five roods square would require thirty-six shots of one-half stick each, or eighteen full sticks. The work and time of putting in and firing the charges will not cost much, in fact, anyone can do the job. All the tool required is an earth-drill, or some tool that can be forced down to the pan.

The change in such soil after blasting is wonderful. Once broken up, it becomes porous and absorbs water quickly, many times drying off more quickly than adjoining lands having no hardpan. What is known here as hog-wallow land responds readily to the blasting method. This land is a kind of hardpan soil that leaves the surface covered with many shallow ponds, from four to ten inches lower

than the surrounding ground, and holding water almost the year round. A few properly placed blasts in each pond will open the way for the water to pass downward, and the soil becomes dry and tillable. When drained it is well suited to grass growing and grain crops. Along the Wabash valley many acres of this kind of land have been reclaimed by blasting within the past five years, and while not the choicest farming land, are growing good crops, and the drainage has proved a paying investment.

GASOLINE POWER

The gasoline engine is a very handy power and deserving of widespread popularity. It will fill many niches on a farm, and very few farmers appreciate its value. Whether or not it will prove an economic utility, depends upon the amount of labor that it can be made to serve, as well as the particular need of such power on the farm. Unless a man has enough work for the engine to make it profitable it must be classed as a luxury. Farmers who shelter their machinery in the field during the winter are not apt to make a success of the gasoline engine in their farm work. It must be well housed and well cared for, for there are certain conditions under which it operates that are simple but inexorable. It will balk quicker than a mule if the conditions are not right. Any farmer can get valuable assistance from the gasoline engine if he gives it proper care.

Its care is very simple. First comes protection from the weather. A tarpaulin is a very good cover for an engine that is kept outside, and even one housed is better if kept covered when it is not in use. Live batteries are necessary. Electricity is the spark of life in a gasoline motor. A clean spark plug is necessary at the other end of the battery wires. The mixture of gasoline and air must be right for the most effective work at the greatest economy of power, altho the motor will work and waste gasoline. Adjustments of this kind are simple to learn, and should be understood by the one in charge of the machine. One frequent cause of trouble is the failure to strain the gasoline when filling the tank. Pay no attention to men who claim that their gasoline is absolutely clean, or the result will be disastrous. Either strain the gasoline through a chamois or a finely meshed strainer. Good lubricating oil is another highly important essential. No machine can give its best service unless it is properly cared for and housed. The owner of a good-sized farm, who can utilize this power for grinding food, cutting fodder, sawing wood, elevating grain, pumping water, operating milking machines, and various other labor-saving uses, will find an investment of from $100 to $400 in a gasoline engine one of the most profitable he can make.

Considerable discussion has taken place regarding the motor truck and farm tractors. Not long ago the writer visited the owner of a 500-acre farm in central New York, where a motor truck is used for heavy hauling and a tractor for plowing. The cost records showed that the cost of operating these machines was about the same for the year as the cost of feeding and caring for the horses they replaced, but the truck and tractor did not require daily care and feed; besides they could do much of the hardest work, and enable the mares to raise good colts and do as efficient work on the farm as they could before when they were compelled to do the heavy hauling and plowing. Another point in favor of the truck and tractor was the saving of one man's time during the year, which may be conservatively estimated at $500. In other words the one man handling the truck or tractor can do more work on the farm than two driving horses.

Whether or not these figures would apply to other farms I shall not attempt to say, but I quote them as given to me, and believe them to be accurate. These figures do not take into account the value of the six grade and purebred Percheron colts on the farm, which in their yearling form are worth, at least, $800, and four spring colts worth another $300. This is one good example where improving the efficiency of the teams on the farm by investing in a truck and tractor has proven profitable. While the truck and tractor have not materially reduced the cost of actually performing a certain amount of farm labor, they have saved the services of one regular man, and made it possible for the mares to produce valuable colts.

Cherry pits have been found to yield a grade of commercial oil, which will add another by-product to the long list which have heretofore been wasted.

A handful of nitrate of soda worked in the soil around the lima bean and tomato vines, will not only increase the yield, but will hasten maturity.

SOME BASEBALL STARS of 1916

35N

THE FARM AND SMALL TOWN FURNISH BEST MATERIAL FOR BIG LEAGUE TIMBER.

Looking over the roster of the big league ball teams you will find name after name of men who only recently were boys on the farm or in the village or small town. On the other hand, surprisingly few hail from the big cities. And yet, this is not so surprising after all. Even laying aside our knowledge of the big part that the so-called country boy has always played in the great affairs of business and the nation, the country is the place to lay the foundation necessary for athletes.

The photographs shown are familiar to all lovers of the great National game. In addition to their being representatives of their type in the baseball world, all of these stalwart athletes are great endorsers of that beverage you know and like so well—Coca-Cola.

Short Histories of the Players.

JONES, Fielder Allison, Manager of St. Louis Browns. Born August 13, 1871, at Shingle House, Pa. Last season he came within one-half game of winning Federal League pennant, finishing nearer the top than any team in major leagues since the Browns in 1889.

He says Coca-Cola is his favorite beverage.

ALEXANDER, Grover Cleveland, Pitcher Philadelphia Nationals. Born in St. Paul, Nebraska, February 26, 1887, and lives on a farm there now.

Alexander is one of the greatest pitchers in the game today, being practically responsible for the Philadelphia National League team winning the pennant last year. Drafted by Philadelphia in August, 1910, with whom he has since played. He warmly endorses Coca-Cola as a drink for athletes.

DOYLE, Lawrence, Captain New York National League Club. Born at Caseyville, Ill., July 31, 1886. Second baseman.

He has played with the New York Nationals since 1907, and was appointed Captain in 1912, which position he has since held with them. Leading hitter of the National League for the season of 1915. Like all the best of them he is a staunch believer in Coca-Cola.

There is, by the way, a wonderful similarity between the origin of these ball players and that of the beverage which they endorse. Coca-Cola might be called an agricultural drink, both from the materials it is made of and because of its great popularity in the country as well as in the city. For Coca-Cola, if ever there was a natural, wholesome beverage, is such—it itself is a gift from Nature. Made from Nature's pure water, flavored with the juices of fine fruits and things that grow and sweetened with Nature's purest, finest sugar—and please particularly remember this last—Coca-Cola contains no artificial sweetening matter but just the best of pure cane sugar. It is this fine combination that gives Coca-Cola its deliciousness of flavor, its distinctively refreshing and thirst-quenching qualities and great wholesomeness. That's why ball players, athletes, fans—all classes and kinds of men and women drink and endorse Coca-Cola. Drink a glass or a bottle and you will be just as enthusiastic about it.

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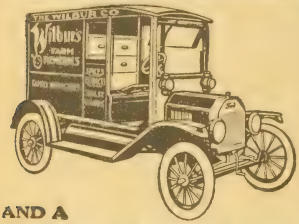

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Hot Weather Care of Milk

And Other Suggestions Which Will Help in Keeping Up the Herd and Increasing Production

By John Underwood

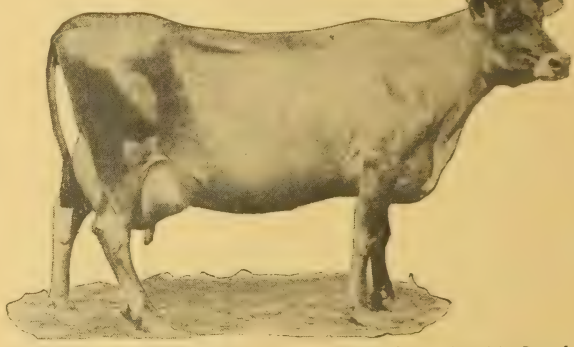
THE importance of efficient cooling of milk cannot be overestimated. By the aid of cooling, milk can be conveyed in summer from country districts to large centers of population, which are perhaps more than 100 miles apart. On the farm the practice should always be to cool the milk as soon as ever it is drawn from the cow, for to allow milk to retain its animal heat only assists it in undergoing bacterial fermentation.

Milk, except when specifically treated, is never found free from bacteria, and the object of cooling is not to get rid of bacteria, but to prevent their growth or development, for it is the milk becoming highly charged with bacteria that causes decomposition to become noticeable. Thruout nature it is a rule that living things require a certain amount of warmth to enable active growth to take place, and this rule applies equally to bacteria as to the higher plants and animals.

wells, and can get water at 55 or 56 degrees F. in summer, may consider themselves well off in this respect.

A good force pump is essential where well water is used, to first elevate the water into a tank placed at sufficient height above the refrigerator, so as to allow the water by its own pressure to force itself thru the refrigerator. Here let me speak a word of warning. Do not in summer time pump the water into the tank until required for cooling the milk, that is just prior to milking time, especially at the evening milking. If the tank is pumped full some time in the morning, ready for evening use, as is not uncommon during the heat of the day, it gradually increases in temperature, so that by the time it is used for cooling the milk it is itself warm, and so cannot to the same degree absorb temperature from the warm milk.

In buying a refrigerator it is an important matter to see that it is made of copper, which point may be ascertained



DOSORIS PARK LILY 233783—Grand Champion Jersey of 1915. Owned by Est. of Chas. Pratt, Glen Cove, N. Y.

If delicate hothouse plants are subjected to a very low temperature they die, but this is not the case with bacteria. Bacteria have been exposed to the lowest temperatures obtainable, namely, those associated with liquified gases, and yet these have not accomplished their destruction, for on being brought to normal temperature again the bacteria have been found capable of active reproduction. The effect of the cooling of the milk then, is not to kill the bacteria, but to deprive them at present of the most suitable temperature for their growth, and thus enhance the keeping qualities of the milk.

On the farm where milk is sold, the water supply is a very important matter, for in warm weather a good deal has to be used to reduce the temperature of the milk the required number of degrees. A deep well gives the coldest water, and those who have deep

by scratching the lined surface with a penknife and noting the copper underneath. Copper is a metal which is a good conductor of heat and cold, so that in a refrigerator it readily allows the passage of the warmth of the milk to the cold water passing thru it. Another point showing the ready conductivity of copper, is that of water in a copper kettle boiling more quickly than water in an iron one.

In winter it is a common practice, when the milk is sent off by railway, to deliver it at the station once daily, as owing to the prevailing low temperature at that time of the year milk will keep in a sweet condition much longer. In summer, however, it should be shipped twice daily, where possible. In addition to the effective cooling, it is necessary in warm weather to adopt means to prevent the milk absorbing heat from the surrounding atmosphere. Much milk that is properly cooled at the

farm, on arrival at its destination is almost in a warm condition, having been exposed to the sun's rays in transit.

HOW LONG SHALL A COW REST

As a rule it is the man who has the least to do with dairy cattle who advocates the longest rest from milk secretion, but within reason the cow should be milked as long as possible, and especially the young cow or heifer with her first calf. This is called inculcating the milking habit, and experience goes to show that as the cow is treated one year she expects to be treated again. Then, too, we owe it as a duty to ourselves to get the greatest amount of work out of our milking machines in the least possible time and at the minimum cost.

A rest from milk secretion is, of course, for the benefit of the cow, of her prospective offspring, and I believe of the milk yield after the production of the calf, for it is certainly not in accordance with the arrangements of nature for a female to be always producing milk, and continued secretion must be a terrific drain on her system where no opportunity is allowed for recruiting. In the case of the poor milker, which in these days of high pressure and keen competition no one should keep as a dairy animal, there is no difficulty about fixing the period during which she should be dry, she simply goes dry herself, and generally a deal too soon for her owner, and some will take as much as three or four months' rest, or yield in response to generous feeding and persistent dragging a quantity of milk that does not pay expenses.

The shortest and best way with animals of this class is to weed them out, for they are quite out of place in the modern dairy. A cow in poor conditon may be allowed two months in which to recruit her strength with advantage to herself and her prospective calf, but this is to some extent a matter of keep, for the poor cow generally belongs to the poor feeder, and if the feeding is generous, the animal in healthy condition, and the milk produced pays expenses, there is no reason why the period of rest should not be further reduced. In the case of the average cow the milking can be continued until within a month of calving. If a cow is in a low condition it is better in my opinion to resort to higher feeding than to dry her off. I have known cows treated thus for years, sometimes being milked to within a month of calving, that have carried as good an appearance and produced equally good calves as those which run dry three times as long. Six weeks may be considered the average period during which a cow should be dry, unless the circumstances are exceptional. It is, however, the extraordinary milker that occasions the greatest difficulty to the dairyman fortunate enough to possess her, both as to the policy of her drying at all, and, if it is decided that this is necessary or desirable, in the way in which the secretion is to be stopped without incurring great risk of injury to the udder, and possible loss of secretive function in parts of the gland structure.

There are some deep milkers, the owners of which would often enough be willing to accord them a reasonable period of rest, if there was a possibility of drying them off without having to take considerable trouble and running a great risk. For these there seems nothing but "milking round," as it is called, and I am bound to admit, much as I prefer a moderate rest, that so far as immediate consequences are concerned the animals do not appear any the worse for it, nor is the milk yield after calving materially affected. This last-named point is perhaps difficult to determine, because it is not possible to say, altho the cow milks splendidly, of what she would have been capable had it been possible to accord her a month's rest. This much, however, seems certain, the risk of causing garget, or inflammation of the udder, and the possible loss of one or more quarters, is too grave to be lightly incurred, and in such cases the practice of "milking round" is quite justifiable.

In the case of heifers, they should never be permitted to go dry early, or the habit of ceasing the milk supply early may be perpetuated. This class of animals should be kept giving milk, even when the yield falls below a profitable quantity, for it is by persistent asking for more that the qualities of prolonged lactation have been developed in the cow.

A STIMULANT

And a Sorry Friend to Many Systems

"Coffee acts as a stimulant to me. I can for a time accomplish more, but then I am dull, spiritless, nervous, weak and irritable.

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"It is several years now since we had the first package of Postum, and we have been using it ever since, to our very great benefit.

"A lady friend who is the wife of a clergyman, was almost a nervous wreck from the use of coffee. She finally began the use of Postum; in six weeks she had lost her former nervousness, had grown plump in the face, and her health was better than it had been for years. She is a splendid advertisement of Postum, and is most enthusiastic in its praise, telling her callers of its merits and urging them to try it." Name given by Postum Co., Battle Creek, Mich.

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"There's a Reason" for Postum.

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Canning and Preserving

The First of a Series of Special Articles on This Most Important Subject in Household Economics

By Eva Ryman-Gaillard

IN this, the first of a series of articles on home canning and preserving, more attention will be given to the general principles involved than to special recipes, and the very first point to be emphasized is the necessity of perfect sterilization, for, with that secured fruit or vegetables will "keep," if properly cared for afterward. Canning powders of various sorts are on the market, and all seem to serve the purpose of preserving canned foods, but as their effect on the health of those making continuous use of them is open to question, they will be passed without consideration, and only such methods as are based on absolute cleanliness and sterilization mentioned.

Cans and Rubbers

Sterilization of fruit or vegetables may be perfect, but unless cans and rubbers used are in perfect condition all work goes for nothing, so, as a first step, these must be considered from various standpoints, including that of cost. First cost is important if canning for the market, and will, in most cases, lead to the use of tin cans. The fact, however, that one, or at most two years, ends the usefulness of the tin can, no matter how carefully handled, makes the glass ones that may be used for many years the more economical proposition, even after making allowance for breakage, when buying for strictly home use.

The glass can, having a metal top with a porcelain lining was, for many years, the most common one on the market and is still largely used. This is as good as any for the first year or two, but after a time germs develop between the metal and the porcelain that are very hard to get rid of, even by boiling. Another style has a glass cover held in place by a metal screw-band, while a third has a glass cover held by a heavy wire spring, and either are better than the first, because there is no double part.

The three types named require the use of rubber rings, and it may be said here that the rubber is the key to the whole situation, for unless it is perfect, and prevents the entrance of germ-laden air, all previous work will be unavailing. It is poor economy to purchase cheap rubbers. The white ones are of some sort of composition that is useless after once using, and not dependable for even that one. The black or red rings, that have more rubber in their makeup, are much better stock, and worth the little more that they cost.

To go back to the subject of cans: A comparatively new style has a metal top, lacquered on both sides, with a groove around the edge filled with a composition of the consistency of rubber which melts from the heat of the jar and forms a seal that takes the place of the rubber rings. These are very fine if they will stay on the market so that one may be sure of getting new tops as needed, which will be every year, as the tops must be punctured before they can be removed, and the sealing material is not twice usable.

When purchasing give preference to wide-mouthed cans, as many times much of the appearance of the finished product depends on being able to put whole fruits, or large pieces, into the can without crushing. The color of the glass is essential to nothing but looks, but fruit in clear white cans is more attractive than in the greenish ones that make anything put into them look off color.

Methods of Sterilization

Here, again, cans and rubbers come in for first consideration, and the housewife who would save time and worry when work is crowding will take a day, early in the season, and see that every can, top and rubber is thoroly cleaned and fitted together, ready for instant use when needed.

The old-time method of cooking fruit or vegetables, and filling while boiling hot, into cans has been replaced by the cold-pack method, which consists of cooking in the cans, with tops and rubbers in place, and insures absolute sterilization of all, and no after exposure to germs while being dipped from kettle to cans.

A few years ago Government chemists made exhaustive tests which proved that only spores developed to a certain stage were destroyed by a first cooking, no matter how long continued or to what degree the heat was raised, and that those of a more immature form would develop later—some, after even the second cooking. As a result the three-heats method was evolved, and found to be a success, especially when canning vegetables.

To use the method for corn, peas, or other vegetables, prepare them as for cooking, and pack into the cans as solidly as possible without crushing, add as much salt as would be used for seasoning the same amount, and fill the can to overflowing with cold water. Put on tops and rubbers, and set cans in a flat-bottomed kettle, a wash-boiler, or any other convenient receptacle. Put strips of wood, a couple of layers of wire netting, or other substance in the bottom of the boiler to hold the cans from direct contact with the bottom. Fill in cold water to a quarter or a third the depth of cans, start fire, and let the cooking continue for an hour after the water begins to boil. Remove cover from boiler to let steam escape, then tighten the tops. Let stand until the next morning, when the tops should be loosened before starting the second cooking. Repeat the process the third morning, after which the tops should be tested for leakage after they have become thoroly cold, before putting away.

As a bit of personal experience it may be told that the writer has canned for years in the steam cooker used for ordinary cooking, and considers it about the simplest "cooker" or "canner" that can be found. If I have plenty of time for long cooking, I often keep the steam up until I feel sure that the contents of can is thoroly cooked and never reheat. If time is at a premium, however, I steam for an hour or so, and repeat the second and third morning. This three-heat method is mighty handy, and very sure, for the worker is liable to interruptions.

With berries, the fruit can be filled into the cans, cold, and the sugar filled in, with a little water if needed, and kept in a cool place during the night, then the cooking started the first thing in the morning. With peaches, pears, or fruit that would discolor, fill the can with water, then put the peeled fruit in as fast as the skin is removed, and close the can. In this way the fruit displaces the water not needed. In the morning empty part of the water out, and put in the amount of sugar needed. Cook as previously directed.

Questions as to how long any given kind of fruit or vegetable should be cooked is an impossible one to answer, as the kind of stuff being canned, the degree of ripeness, the size of the cans and other things have a bearing. Common sense tells, however, that the same rules apply to stuff in a can as to the same stuff cut. Berries and soft fruits require less than a quarter the time of heavier fruits or vegetables, and a few experiments will teach more than pages of time tables could.

Corn should be prepared and put into the cans as quickly as possible after being pulled from the stalk, as its natural sugar content diminishes rapidly. An hour will make a marked difference. Beans should be at the "snap" stage, and used before they have time to wilt. Beets are best at a size to be put into cans whole, and all vegetables, and fruits, should be at their freshest.

If vegetables are "blanched" by plunging into boiling water and cooking for from five to ten minutes (according to variety), and then plunged quickly into cold water, much of the ferment and mold spores is washed away, bitterness is removed and, with some things, the bulk is reduced, making it possible to pack more into the cans.

(Continued on Page 19)

For "Farm News" Readers Only FREE

This Beautiful 42 pc. Set Special China, Worth $10

Never Before and Perhaps Never Again

This Wonderful Offer May Not be Repeated

Write today—Tomorrow may be too late!

42 pcs. lovely china with Wild Rose Initialled or Emblem designs in Gold and colors

The above picture gives not the faintest suggestion of the wonderful beauty and elegance of these dishes. You must *see* them to realize the startling nature of this absolutely extraordinary offer.

Read Carefully This set comprises six large dinner plates, six dessert plates, six large cups and saucers, six butter plates, six sauce dishes, sugar bowl, large oval vegetable dish, round vegetable dish, large meat or game platter, fancy plaque, fancy cake or bread dish.

All with initial or emblem (except cups and saucers), also Wild Rose design in natural colors, gold traced around edges.

No Money in Advance Our Winner Offer. Beautiful Dishes FREE! We trust the people because they trust us. Our plan is so fair, our goods give such satisfaction that we run no risk nor do you. No matter how many dishes you have, you have nothing like this set. Be the first among your friends to own and use the newest thing in fine table china—beautifully decorated initialled or with the emblem of your Order as preferred—absolutely unique in china making. We have arranged for a limited number of these sets made especially **for you**, and can only say "first come, first served." These dishes cannot be bought in stores anywhere. They can only be had from us and in the way set forth below. One or two hours' time will get you this set of elegant dishes, and win the envious admiration of all your friends. "How did she do it?" they will say, and this is the secret:

We take this way to advertise "Kibler's All-Round Oil," the most wonderful quick selling cleaning, polishing and lubricating oil ever made. It works like magic. You and your friends need a good cleaning and polishing oil in your homes. "Kibler's All-Round" is the best. Put up in liberal sized bottles, selling for only 25 cents per bottle. And as a gift with each bottle, to each purchaser, we provide an elegant picture, a reproduction in the original colors of a world's masterpiece of art, in every way worthy of framing and which would cost in an art store up to 50 cents each. Just think of it! a large bottle of this wonderful new oil and a large art picture, either worth alone 25 cents, but both together only 25 cents.

Fraternal Emblem Decorations

If you are affiliated with any of the fraternal orders named below and prefer the emblem of your order to an initial we will gladly furnish it. Be sure to specify otherwise initial will be used.

Woodmen of the World
Woodmen's Circle
Modern Woodmen
Eagles Yeomen Ben-Hur
Modern Brotherhood Moose
Maccabees Court of Honor
Knights & Ladies of Security

We Trust You We will send you without any money in advance, 24 bottles of the Oil and 24 of the art prints. Sell the Oil for 25 cents per bottle and give each purchaser one of the art prints. Send the $6.00 you collect to us and we will immediately ship you the entire set of 42 dishes. To offset the charges on the oil and pictures we send enough free goods to more than cover the cost. We guarantee the dishes against breakage in transit. If any are broken we will replace them free.

No Reference Required We are making this offer to readers of Farm News only, and know whom we are dealing with. But you should act quick. We don't want anyone disappointed, and will guarantee a set of dishes to everyone who orders our assortment, but you must help us to the extent of acting quickly. Remember no money in advance, no reference. Just fill out and send in the Special Free Coupon at left. You have everything to gain, nothing to lose, by accepting this unprecedented offer. We guarantee your sales. Any you don't sell we'll take back. Could we do more? Write today and be sure of your dishes.

How They Write:

Lebanon, Ind. Many thanks for the beautiful dishes. Everyone thinks them lovely.—Mrs. Mary Welch.

Gurley, Ala. I have just finished selling the oil and had good luck. M. O. herewith.—Ella McBroom.

Waynesboro, Va. Received the dishes yesterday. I am more than proud of them.—Mrs. Thomas Davis.

New Paris, O. All like the oil. Of 15 families I sold 12. I want the dinner set.—Miss Ola Benson.

And Thousands More

Cut This Out Our Special Free Offer

Send No Money

Just Sign and Mail this Coupon Today

W. D. KIBLER, Box 534, Indianapolis:
I have read the above offer. Ship me the assortment of Oil and pictures. I will sell the Oil 25 cents a bottle and remit you $6.00, on receipt of which you will at once ship me the full set of dishes shown and described above.

Signed
Name.....

P. O. Address, Town.....

R. F. D. Route.....State.....

Nearest Express Office.....

W. D. KIBLER CO., BOX 534, INDIANAPOLIS, IND.

Up-to-Date Farm Practice

Practical Matter That Makes for Better Farming Conditions

By Lester J. Meredith

SOWING RAPE IN THE CORNFIELD

As a feeding proposition there is none that gives better profits, considering the amount of capital invested, than fattening sheep in the cornfield where rape has been sowed at the last cultivation of the corn. The sheep may be bought early, and pastured or fed earlier soiling crops until the rape is fit for them to be turned into the cornfield. The Dwarf Essex rape is the variety best adapted for sheep pasture. About five or six pounds of seed will afford an excellent stand, if sowed broadcast after the final cultivation of the corn crop, providing that the conditions are favorable for an early germination of the seed.

Practically no damage will result to the corn crop; the sheep will consume a large percentage of the lower leaves and lodged stalks. Old breeding ewes that have passed their maternity usefulness, can always be bought at prices which make them profitable to turn into a rape and corn field. Yearling wethers may be fattened in the same way. No grain foods will be required. Rape alone will produce enough increase to insure a good profit. By growing rape with the corn crop, and pasturing it with sheep, an intelligent flock-owner may greatly increase his income from his corn crops.

DESTROYING WEEDS

At Riverside Farm we have planned to interest our neighboring farmers in getting together during July and August and making weed-eradication a common object. Individual work alone may keep a farm fairly free from troublesome weeds, but the complete destroying of troublesome weeds can only be accomplished by concentrated, persistent effort on the part of the adjoining landowners. It is useless for us to try to clean up our farms from noxious weeds if we allow annuals to mature seeds, and the perennials to extend their root-systems, and sow grain and grass seed that contain weed seeds, and broadcast it in the farm manures. Fields that are occupied by the same crop year after year, and where farm stock is not kept in sufficient numbers and variety to compel crop rotation, are seldom free from noxious weeds. Crop rotation and grass growing provide a constant disturbance to noxious weeds, and when reinforced by a relentless war on roadside and pasture weeds and clean cultivation, ultimately drive out many of the more troublesome varieties.

On farms where cattle, horses, sheep and hogs are kept in large numbers the owner is compelled to grow a variety of crops, and follow a rotation that will constantly disturb the weeds. This practice will enable him to clean up his fields from weed pests. Different kinds of weeds require different treatment, but an intelligent, persistent effort will bring a farm to a condition so that its owner may direct more attention to certain portions of the farm that are infected with the more troublesome varieties of weeds. Weeds thrive best when they are not disturbed.

One simple principle underlies the practice of cutting weeds. No weed can feed itself without leaves. Some varieties may live thru a year without leaves, but most species, if kept down close to the crown during the growing season, will starve to death. By keeping weeds cut down close, and crowding them with dense, greedy competitors, like clover, alfalfa, blue grass and timothy, and plowing, and raking up and burning the roots, they can be eradicated. This requires well-directed labor, but it is well invested. Neighbors should co-operate in cleaning up roadsides and fence corners. Cut them with a scythe and mowing machine, slash them with a hoe and spud, spray them with sulphate of iron, and pasture them with sheep, and rotate crops, and you will find that you will soon get rid of the worst of them.

MANURING GRASSLAND

At Riverside Farm we have obtained excellent results by applying spring and summer manure to the thin spots on the meadow or newly seeded grasslands immediately after haying and harvesting. The manure not only furnishes plantfood to the clover and grass, but it acts as a mulch, and protects the tiny plants from the sun and heat. When manure is applied to grassland, care should be exercised in spreading, if the work is done by hand, and when a manure-spreader is used ten loads to the acre is sufficient to secure maximum results. One great mistake we make in the management of our grasslands is that of cutting the stubble too close, and allowing the hot sun to burn every trace of organic matter out of the surface of the soil. Grass roots must have protection from the hot summer sun and winter frosts if good meadows are secured and maintained from year to year. In cutting small grain crops it will be much better for the seeding if the grain is cut six or eight inches high, leaving the stubble to protect the grass or clover plants from the rays of the sun.

DIRECTOR CLEMENT ON FRUIT GROWING

Color, size, freedom from blemishes, quality and uniformity may be obtained in fruit growing by pruning, fertilizing, spraying, cultivation and thinning, according to F. M. Clement, Director of Vineland Station, Canada. A starved tree produces little apples; a well-nourished tree larger apples. Fertilizing is ranked as of more importance than cultivation, because it also effects the vigor or health of the tree and makes it better able to resist disease. The first step in uniformity is to prune, shape and balance the tree.

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore. (Adv.)

The Wheat Yield Tells the Story of Western Canada's Rapid Progress

160 ACRE FARMS IN WESTERN CANADA FREE

The heavy crops in Western Canada have caused new records to be made in the handling of grains by railroads. For while the movement of these heavy shipments has been wonderfully rapid, the resources of the different roads, despite enlarged equipments and increased facilities, have been strained as never before, and previous records have thus been broken in all directions. The largest Canadian wheat shipments through New York ever known are reported for the period up to October 15th,

upwards of four and a quarter million bushels being exported in less than six weeks,

and this was but the overflow of shipments to Montreal, through which point shipments were much larger than to New York.

Yields as high as 60 bushels of wheat per acre are reported from all parts of the country; while yields of 45 bushels per acre are common.

Thousands of American farmers have taken part in this wonderful production. Land prices are still low and free homestead lands are easily secured in good localities, convenient to churches, schools, markets, railways, etc.

There is no war tax on land and no conscription.

Write for illustrated pamphlet, reduced railroad rates and other information to

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Canadian Government Agent.

NO PASSPORTS ARE NECESSARY TO ENTER CANADA

Capons as Money-Makers

A Profitable But Little Used Branch of Poultry Raising

By Mrs. Everitt Williams

I BELIEVE the raising of capons is one of the most profitable phases of poultry raising. Altho this has been practiced in Europe for centuries, it is still in its infancy in America.

And I am sorry to say only a few of the farmers' wives know very little or practically nothing of the possibilities of the capon.

In order to be more thoroly understood, I will say a capon is a male bird with the generative organs removed. The larger the capon the better price it will bring. For this reason one should keep only the larger breeds, such as Brahmas, Orpingtons, Rocks, Wyandottes, etc. No black chickens should be used for this purpose, as they do not dress as well as the lighter breeds.

The best marketing season is during the months of January and February, and perhaps the first week in March. The eastern market is best, altho Chicago and St. Louis are good. In December, 1915, St. Louis commission men offered 19 cents for capons weighing 7 lbs. or over. In January, 1916, 20 cents per lb. for the same sized birds, last of February 22 cents for birds weighing 8 lbs. and over.

Slips usually sell for 2 or 3 cents less on the lb.

Should any one care to try caponizing they should send to the Agricultural Department, Washington, D. C., for the bulletin No. 452 on "Capons and Caponizing." This bulletin explains very clearly the method of procedure, and if followed carefully one cannot fail to have success.

After the operation the birds should be kept to themselves and fed a good growing ration. Range is not of so much importance, as the birds become very lazy. They are also of a very timid nature, and if fed with other chickens will not get their share.

Capons continue to grow until they are fifteen months old, and should not be marketed under ten months, to get best results. From ten days to two weeks previous to marketing, capons should be confined closely and fed well.

Our method is to use crates, these are built 3 feet long, 14 inches high and 2 feet wide. The front is made of lath about 3 inches apart, extending vertically, the bottom lath should be 1 to 1½ inches apart. This permits the droppings to fall thru, and not collect in the crate. The front allows the birds to eat from a trough, which is on the outside of the crate. A crate of the above dimensions holds five large birds.

We feed a mash, which is made quite wet with sour milk. No other water is given, the milk in the mash being sufficient. In connection with the mash, we feed a grain ration twice a day. The birds are very happy and contented, always ready for their feed, and if properly cared for will take on from 1 to 1½ pounds a week.

A beginner should not expect too much the first year, as it takes one year to learn the art. One knows to get best prices for broilers they must be hatched early and marketed early. Early hatching for capons is not essential, as the best prices are paid the last of February and first of March. This advantage, coupled with the good prices which they bring, should induce many to start this line of poultry production.

Lice work havoc with chicks hatched in the machines as well as those hatched under hens. It seems strange that lice will appear in a bunch of chicks that have never been near an older bird or housed in old houses, but it is a fact. The English sparrow is a regular lice conveyor. I found one of these little birds fast in a chick pen that was literally covered with the pests. Therefore we ought to forestall the lice problem by beginning to fight it before it appears. Keep everything clean, use a good disinfectant occasionally, and the trouble will be less disheartening.

In this Matter of Health

one is either with the winners or with the losers.

It's largely a question of right eating—right food. For sound health one must cut out rich, indigestible foods and choose those that are known to contain the elements that build sturdy bodies and keen brains.

Grape-Nuts

is a wonderfully balanced food, made from whole wheat and barley. It contains all the nutriment of the grain, including the mineral phosphates, indispensable in Nature's plan for body and brain rebuilding.

Grape-Nuts is a concentrated food, easy to digest. It is economical, has delicious flavor, comes ready to eat, and has helped thousands in the winning class.

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Kidder's Pastilles For 50 yrs. standard relief for **ASTHMA** All druggists or by mail, 25c. STOWELL & CO., Mfrs., Charlestown, Mass.

WANTED to hear from owner of good farm for sale. Send description and cash price. R. G. LIST, Minneapolis, Minn.

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Experience unnecessary. We can help you while you learn. Write for big list of positions open, and testimonials from hundreds of our students who earn $100 to $500 a month. Address our nearest office. Dept. 539 NATIONAL SALESMEN'S TRAINING ASSOCIATION Chicago, New York, San Francisco

WANTED to hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

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13	25		
1	21	20	15

Each of these squares represents a letter—but we have used figures instead of letters. There are 26 letters in the alphabet. Letter A is 1, B is 2, C is 3, etc. The SIX letters represented by figures form two words which will interest you mightily. Send the words on a slip of paper with a 2c stamp to cover postage—agree to show my offer and mdse. to your friends and I will send you a pretty Gift Package. THE RACER MAN, 154 New Ideas Bldg., Philadelphia, Pa.

July in the Farm Garden

Best Management Consists in Keeping the Ground Busy

By Charles H. Chesley

THIS is the month when many of the early crops will come off the land, and those which are to round out the season will be put in. The wise gardener plans to keep the ground busy all summer. If any part is left to itself for a considerable portion of the summer, like an unrestrained child, it is sure to get into mischief —in other words, the plot left uncultivated will breed insect pests and a host of weed seeds to work havoc next year. When the pea vines are thru bearing, pull them out, run the cultivator over the space, and either set plants or sow some kind of seed. Celery will do well as a crop to follow peas. The seed sown in the spring will have produced fine plants by this time and they may be set in the permanent rows any time this month, and the prospects should be good for a fine crop for winter use. As celery requires a lot of plantfood, a coat of rotted barnyard manure should be harrowed in, or mixed into the soil of deep trenches before the young plants are set. High-grade commercial fertilizer will answer the same purpose.

The so-called celery cabbage, sometimes known as Chinese cabbage, should be planted this month. This vegetable deserves to be better known. It comes from China, and belongs to the cabbage family, but does not form heads in the sense the ordinary cabbage does. The midribs of the inner leaves are white and very tender, while the whole plant resembles a Cos lettuce. It is used as a salad or boiled like cabbage. It may be planted any time before the twentieth of July. If planted earlier than this month it soon runs to seed. Sow the seed in rows two feet apart, and thin the plants to stand one foot apart in the row.

Winter radishes and white or yellow turnips for winter storing may be planted any time this month. This is true for the northernmost tier of states. Farther south the seed may be sown considerably later. In the middle states, early peas, beans and sweet corn may be planted this month to keep up the succession.

If the late cabbage, cauliflower and Brussels sprouts are grown from plants, these should be set in the permanent rows this month. We find that it is rather less work to plant the seed right where the plants are to grow, and thin them out to stand the proper distance apart. However, we sometimes find that we have a bit of land where plants may be set, and this may be done any time this month. If no seed has been planted, there is still ample time to prepare a patch and set the plants. It is possible to get plants of all these vegetables from any seedsman or plant grower as late as July. The comparatively new Copenhagen Market cabbage is one of the best sorts to grow for a fall and winter supply if the plants are set late. In fact, plants of this variety, set in the ground as late as August, are pretty sure to head up well if plenty of plantfood is provided. It is also a good keeping variety. Surehead is another good sort, but for keeping thru the winter, nothing can compare with Danish Ballhead. It has been stated, however, that the last-named does not head up well on limestone soils.

We grow the Early Snowball almost exclusively in the cauliflower patch. Many people experience considerable difficulty in getting the cauliflower to head. One of the surest ways is to mulch the soil with old cow manure. This should be done when the plants have made a good growth, and are about ready to begin to form heads. Cover the ground between the rows to the depth of four inches, but do not let the manure touch the plants. This holds the moisture, and adds fertilizing material, which the plants need so much at this critical time. If the weather is particularly dry this treatment is doubly important. The same method works well with Brussels sprouts, but it is of no use to try to make the latter form heads until September. They simply will not head up until the weather becomes cool.

This is the month when we have to look well to the insects. The potatoes will need one or two sprayings with Paris green, arsenate of lead or other poison to take care of the Colorado potato beetle. This insect also attacks the tomato vines, and is particularly harmful to eggplants. The same poison

(Continued on Page 19)

115,000 Hogs Saved

treated before they are old enough for the disease to attack them. Keep the young pigs immuned as fast as they come for three years, and you will have starved the cholera germs to death.

FARM NEWS' INVESTIGATIONS

The fact that Dr. Jones has proved his ability to deal successfully with hog cholera has brought to him the business of many large landowners, among whom is the Houston Farm Co., of which Foster B. Houston is president and general manager. Mr. Houston thinks so well of Dr. Jones' work that he has given him an annual contract for treating all the pigs on the company's 38 farms, and incorporates a clause in his lease to tenants, providing that all pigs shall be immuned by Dr. Jones at the age of four weeks.

The serum method of treating hogs was in bad repute among the farmers in his locality when Dr. Jones took up the work of eliminating the prejudice—and also the guess. In order to eliminate prejudice, he assumed responsibility—he guaranteed the treatment. He doesn't have to do that now. To eliminate the guess, he bought sick hogs from affected herds, and posted them—that is, he killed them, and held post mortems, and made sure that he was treating the animals for the right disease.

Dr. Jones' local successes caused him to establish branch offices, with competent assistants in charge. His field extends over several adjoining counties, and his work keeps him going practically all the time. Besides 38 Houston Farm Co. farms, he has any number of large herds to treat. One of the largest of these, 751 head, treated last year, had among them 126 brood sows, heavy with pig. There is an impression that brood-sows will miscarry when treated for cholera, but out of this 126 none aborted, and their litters aggregated 1,000 pigs as good as anyone would want to see. His highest record for immuning in one day was 606. On one farm he treated 230 in two hours and one minute.

Starting from his office in the morning, with his serum packed in a wicker basket with an ice chamber, every instrument clean as a new pin, he makes every move count. The farmers are notified the day before he goes to them, and they have the hogs up, with three of four men to help. The men are instructed as to the best way to catch the pig to save handling, how to hold it so as to give the doctor the best chance, and just what to do in every instance.

An operating table is carried along, one that can be hooked on a fence, corncrib, or on any projection around the field of operations. This is covered with a clean sheet, and the work commences.

Before leaving his office every instrument is absolutely clean, and has been disinfected in an anti-septic solution. He leaves his shoes in his auto, and puts on a pair of rubber boots. He also wears a long white coat, buttoned at the collar and wrists. "Cleanliness and Care" are his watchwords. The syringe used to inject the virus holds thirty cc, thirty doses, and is so arranged that he can administer just one cubic centimeter by pushing the piston in to an automatic stop. The serum is carried in a bottle in the left-hand pocket of his operating coat. He does not empty the virus and serum in open vessels, where it may become contaminated with dust and all kinds of germs, not to mention that flies are always attracted to the virus, and are liable to carry the disease all over the farm. A V-shaped notch is cut lengthwise in each cork, and a small rubber tube inserted in each bottle, thus keeping the virus from the air, and reducing the chances of spilling it to the minimum.

If a drop of the virus (cholera blood) shows on the treated surface of the hog, it is immediately wiped off with absorbent cotton, and an anti-septic bath given the part. In cleaning his instruments, great care is taken that none of the virus is left on the ground or on any of the appliances used. The unused contents of the virus syringe is shot into a glass jar containing the strongest anti-septic solution, and before going to the next place, each instrument is given a thoro anti-septic bath. The rubber boots worn are also given an anti-septic bath, so that no germs may be carried from farm to farm. As a result of these precautions there is no spread of the contagion. He carries all fabrics used to his office, where they are burned.

Our Fashion Department

Special Price of 10 Cents Each For All Patterns

7871—Ladies' Waist—Sizes 34 to 40 inches bust measure. Knife-plaited frill arranged "vestlike," under tab extension of right front on line with bust. Shoulder seams gathered at the fronts; long or short sleeves.

7867—Children's and Girls' Apron—Sizes 2, 4, 6, 8 and 10 years. Covers entire dress, and has body and sleeve sections in one piece. Sleeves may be used or omitted.

7869—Ladies' Dress—Sizes 36 to 42 inches bust measure. Vest and cuffs of white linen; collar and vest are in one. Sleeves may be long or short; skirt is cut in six gores.

7866—Girls' Dress—Sizes 4, 6, 8, 10, 12 and 14 years. Collar, cuffs and belt are of contrasting material. Dress closes at left side of front.

7876—Ladies' Shirtwaist—Sizes 36 to 42 inches bust measure. Made up in the figured and flowered effect. Open neck has collar in plain material, daintily outlined with edging.

7902—Ladies' Apron—One size only. Cut in one piece and slips on over head. Round collar and short sleeves provided; pocket in either side of front.

7872—Ladies' Skirt—Sizes 22 to 32 inches waist measure. Cut in four gores, has a plain panel front and yoke at the sides and back.

7865—Boys' Suit—Sizes 2, 4 and 6 years. Straight or bloomer trousers may be used, and are buttoned to waist that may close at front or slip on over head.

7883—Ladies' Skirt—Sizes 24 to 32 inches waist measure. Skirt may be cut in either four or five gores. Closing is at the left side of front.

7870—Ladies' Dress—Sizes 36 to 44 inches bust measure. Closes at front and is in one from shoulder to lower edge. Neck finished with a pretty collar.

USE THIS COUPON WHEN ORDERING. (Cut it Out)

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Enclosed please find $.....,for which send me the following patterns (Price 10c each)
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This famous "Perfect Sewing Awl" sews old or new harness, saddles, canvas, tents, rugs, carpets, quilts, shoes, grain bags—everything, and makes them good as new. Uses any kind of thread. Size with needle, 6¾ inches long. Finely finished and nickel-plated. Comes with two needles, combined screw driver and wrench, also reel of waxed thread. Saves time—money—labor.

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FARM NEWS, Dept. C. R. Springfield, Ohio

Intercropping the Young Orchard

Serves as Aid in Meeting Maintenance Charges During Period of Non-Production

By Alvah H. Pulver

MOST peach growers in setting out new orchards plan to make some use of the orchard land during the first few years of the young trees in growing some annual crop. While it cannot be said that the practice is seldom, if ever, of any advantage to the trees in comparison with thoro tillage alone, the practice of interplanting crops does serve as an aid in meeting the cost of maintenance during the unproductive period of the young trees.

The interplanted crop ought to be one that needs essentially the same tillage that the peach trees should have. Where this is the case the secondary crop does not seriously interfere with that operation. The grower, however, should realize that he is, in effect, following a system of cropping, and that because of the interplanted crop he may need to give more attention to the fertility of the soil than he would for peaches alone. After the trees reach bearing age they should not be made to compete with another crop.

The selection of crop may be governed to some extent by the relative market value of different crops that can be grown in different regions. Cantaloupe, peas, cabbage, beans, tomatoes, and other truck crops, are extensively grown in this way in different sections. Potatoes are sometimes used, but they are suitable only when the crop can be managed so that the digging will not amount to a late cultivation. Corn, also, is frequently used, but, as very often managed, it is objectionable, because it shades the trees excessively. Whenever corn is planted an open strip of considerable width should be left along the rows, so that the trees will be fully exposed to the sunlight thruout the season. If a very tall, strong-growing variety of corn is used, a wider strip should be left unplanted than where a dwarf variety is selected.

With the trees farther along toward the adult stage, the grower needs a keen insight in matters pertaining to fungous diseases and insect pests, and with this information he will need to keep in close touch with his state experiment station, so that he may refer emergency matters there without delay. After a grower has pruned intelligently, and tilled and fertilized his orchard well, the orchard may be short lived and the crop a financial failure if he neglects to give proper attention to the control of the insects and diseases which habitually occur in most peach-growing regions. While it is true that there are some rather serious peach parasites which are sectional in their occurrence, and some of those which are widely spread remain unknown thus far in certain districts, it is also true that a considerable number of both insect pests and fungous diseases are to be found pretty nearly everywhere in the country where peaches are grown.

Passing on to the productive orchard we find that are many problems to be solved even after the orchard has "arrived." The matter of thinning the fruit on heavily loaded trees should require no special argument to establish the wisdom of the practice. However the reasons for thinning are briefly as follows:

Young peach orchard showing successful interplanting

The fact is widely recognized that most varieties of peaches, as well as other fruits, for that matter, under favorable conditions often set more fruit than the trees can possibly develop to a good degree of perfection for commercial purposes. The natural activity of the tree is to perpetuate its kind. To this end, left to itself, its tendency is to develop the largest possible number of seeds, with each seed possessing the potential possibility of becoming a new tree.

The grower's aim is for the tree to produce the largest possible amount of fruit that can attain the highest commercial standard. The effort of the tree and the object desired by the grower impose, or at least tend to impose, incompatible requirements. The development of a great number of seeds is a tree-exhausting process. This is opposed to the development of large fruits. To meet his wishes in this respect the grower has recourse to thinning his fruit.

There is perhaps no operation in the production of peaches which requires keener judgment in order to reap its full benefits than thinning the fruit. However, no fixed rules for it can be given. It is commonly advised to thin so that the fruit will not be nearer together than four to six inches. This direction is generally quite applicable, yet it may have several important modifications under different conditions. The strength of the tree, the fertility of the soil, and especially the soil moisture, are all factors governing this operation. These factors, together with the size of the crop, or in other words, the number of fruits allowed to develop on the tree, govern very largely the size and perfection to the individual fruits, except as fungous diseases and insects may affect them.

The skill of the grower is shown in his ability to adjust the size of the crop on his trees to the varying conditions of the season. He thus regulates the amount of fruit on his trees, if the season becomes very dry, as it advances.

It is sometimes argued that the expense of thinning makes it prohibitive. This is wrong. While it may cost a large amount relatively per tree, it is the experience of the best fruit-growers that, as a rule, actually more high-grade fruit is produced on a tree which bears only a moderate crop than on one which is heavily overloaded, and the average fruit on the tree with a moderate crop is of better grade than the best fruit on an overloaded tree.

Another factor is commonly overlooked when the cost of thinning is considered. The operation should be done after the "June drop," which usually occurs from a month to six weeks after the blossoming period, when the imperfectly fertilized and other weakly developed embryo fruits drop off and before the pits begin to harden. After the June drop is over there is but very little dropping of the peaches. Hence practically all the fruit that remains will be on the trees at harvest time. The fruit will have to be picked then.

GREENBACKS IN RED TOMATOES

In 1906 a co-operative concern erected a canning factory in a small town in Grant county, Indiana, for the purpose of putting up a tomato pack. Tomato-growing was a new proposition for the farmers of that community. They were timid about taking hold of tomatoes on a larger scale than the usual garden patch, but a few of the more venturesome spirits agreed to give them a trial—especially those who owned stock, and knew that no acreage meant no pack and an idle factory.

Altogether less than 100 acres were contracted, and part of these acres were never planted to tomatoes. Last season, for another factory in the same township, the cooperative factory having failed, the same territory pledged 1400 acres for packing purposes. This was the fourth successive season for the new factory—all of them successful. The little cooperative concern had passed, but in the passing the farmers had been educated to the value of the tomato crop as a money producer.

The pioneers experimented with varieties. The first plants failed to mature early enough for this section. The Stone, a meaty, prolific red tomato, allowed the frost to catch it, and thousands of bushels—practically the whole first crop—were frozen in the fields. Other varieties were tried, and the State Experiment Station asked to help. So experimental tracts were laid out, new varieties tried, and trials made with various commercial fertilizers. The result was profitable both to the grower and the factory, and tomatoes began to bring profitable returns. The Greater Baltimore was the variety settled upon for this vicinity, and it is still being grown. More fertilizer goes into the ground with a tomato crop than with any other single crop grown in the county, or, for that matter, the entire state.

The first growers could not get plants in time. They were usually grown from seed sown in the open ground as soon as the soil could be worked, and consequently the main crop was late. No one could grow enough plants for his own use, so frequently "volunteer" plants were resorted to to fill in the gap. These old timers laughed at fertilizer. The later factory took care of the plant proposition for the farmer. One man had a contract to furnish over a million tomato plants. He delivered the goods. These plants were grown in long beds and forced by a liberal application of commercial fertilizer, steam heat and city water. Commercial fertilizer on the experimental plats soon demonstrated its value.

Last year one grower set 56 acres in tomato plants. He cleared over 2,000. If he had raised tomatoes six or seven years ago he would have been satisfied with six or seven tons per acre. Last year ten was as low as he could consider and have a crop. Together with the increased yields the price per ton has gone up, and now from eight to ten dollars per ton is paid on delivery, the grower to furnish his own plants, crates and other equipment.

Although planters are made with fertilizer attachments, one of the most satisfactory methods of applying fertilizer is to place it close to the plant by hand. A two-wheeled cart to which a horse is hitched, and one narrow enough to go between the rows, is used to haul the fertilizer, while a man walking at each side distribute it. Two men can cover a considerable amount of ground in a day in this manner, and have the assurance that the "food" is where they want it, and that every plant has its share. A two-horse cultivator follows behind them mixing the fertilizer into the soil.

This is a typical corn-and-hog country, yet many men are trying a few tomatoes every year. They are not a fancy crop by any means, and are as easy cared for as any other crop after once started. They work well into the regular rotation, and bring better returns quicker than the ordinary crops. One tract of ten acres produced nearly $1300 in gross proceeds. Others have done as well or better, and the renter with a small acreage at his command finds that he can do no better than grow tomatoes. They can be tended with the ordinary cultivator, and the most important investment is the crates in which to haul the fruit to market. At least fifty crates, holding about one bushel each, are needed to each acre of good tomatoes. They will cost about $15 per hundred crates.

It is true that the beginner, and especially the beginner who starts in a new territory—one where the peculiarities of the crop are but little known—will find disappointments sticking out all over the tomato proposition, like bumps on a toad's back, but it is a crop that can be easily learned with a little patience and experience, and it is a money producer on any land that will grow good corn, providing one can get not less than eight dollars a ton for his crop.

A BIG SHOWER OF SILK FREE

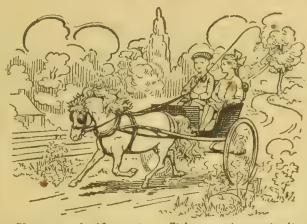
Can you use a big package of real silk remnants from a Necktie Factory? "Crazy Quilt" making is again very popular. Here is a bargain that will please you. Bright, handsome, odd-shaped and pretty colored goods accumulate very fast at Necktie factories; the styles were never so bright and pretty as they have been the past season and they are now burdened with remnants of many rich goods. We have purchased thousands of pieces from the factories which we have made up in assorted packages for our friends. Haven't you found it difficult to get the right assortment to put into sofa-pillows, quilts, etc? We can help you out now. Our packages contain the best quality assorted silks—all pieces are carefully trimmed and especially adapted to all sorts of fancy, art and needlework. We also give you 36 PRIZE WINNING QUILT BLOCK PATTERNS

These quilt block designs were selected from more than 800 patterns in a big Prize Winning Contest. Some of these are real historic designs, others are entirely new, but all of them are good and will appeal to the lover of beautiful and artistic quilts.

WE WILL SEND YOU FREE a big package of silk remnants and the 36 prize winning quilt block designs if you will send us 25 cents in silver or stamps to pay for a one year subscription to The FAMILY MAGAZINE. This offer may be withdrawn so send your order today.

FARM NEWS Dept. F SPRINGFIELD, OHIO

PONY PRIZE PUZZLE



You can win if you try. It is a great opportunity. Write us today, sending your answer with the faces marked, with two two-cent stamps to help pay the postage and mailing expenses of the present which you have won. It will be mailed direct to you with your Certificate of Entry and 2000 Free Votes in our pony contest. We will also send you a copy of three popular publications worth 15c. Write your name and address plainly so there will be no mistake. Address:

This picture shows two of our friends driving a beautiful pony, like the one we are going to give away. In this picture there are six partly hidden faces which it will be lots of fun for you to find. It is not so easy to find the faces in this picture but by close search and by twisting and turning the picture around they will be revealed to you. Can you find them?

YOU WILL WIN A PRIZE

If you do. Try it, don't give up. It will pay you. When you have discovered four of these faces mark each with a cross (x), cut out the picture and mail it to us. When your answer is received we will send you a prize which we know you will appreciate and it will be a big surprise to you. We will also make you a present of 2,000 free pony votes and tell you all about this splendid pony which we are going to give away with a full set of harness and beautiful pony cart and also a saddle and bridle. We will give away other prizes also for just a little effort.

Pony Puzzle Dept. 503 W. D. Boyce Co., 500 N. Dearborn St., Chicago, Ill.

Solve This Puzzle and Win a Prize

Here are seven sheep in a pen. By drawing three straight lines you can put each one in a pen by himself. If you can do this, we will send you as a prize, *a surprise package of beautiful season and greeting post cards,* lithographed in rich colors, and also a certificate of entry in our grand contest for an Overland Automobile. All you have to do is to enclose a two cent stamp in your letter to pay postage and cost of mailing.

Overland Auto Given Away

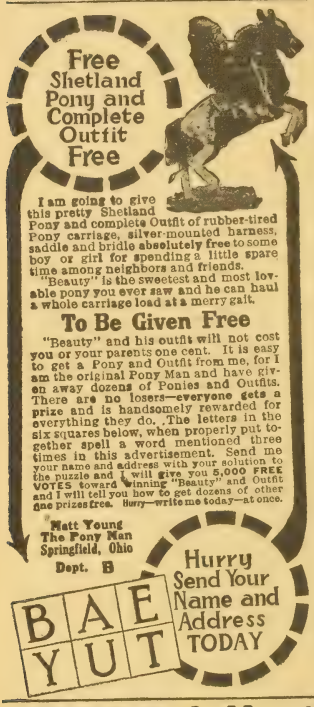
Remember the Overland will absolutely be given away at the close of the grand contest. In case of a tie an Overland will be given to each person so tied. Send at once so you can be entered in this great contest. Full particulars by return mail.

THE AUTO MAN, Dept. 86 Des Moines, Ia.

ALL THESE FREE

This Gold Plated Pendant (set with two sparkling similitude Diamonds) and Regular Length Chain and this lovely Gold Plated Elite Bracelet (opens to fit wrist) and these 4 Gold Plated Rings absolutely Free to anyone who sells only 12 pieces of Jewelry at 10c each and sends us the $1.20. We trust you and take back all not sold. Address

A. D. DALE MFG. CO.
Providence, R. I.



YOUNG FOLKS

INSECT EATING FRIENDS

Moles and shrews are among the most voracious insect eaters, but we fail to give them proper credit, going so far as to trap the moles and mole shrews for burrowing under our plants, and the only reason we don't treat the other shrews as stubby tailed, long clawed, long nosed mice is because they are so shy we never get a glimpse of them. Moles and shrews eat nothing but insects, and they eat a tremendous lot of them.

Skunks, snakes, toads, spiders, and many of the lizards are insect eaters that do their work quietly, but they devour a lot of the worst pests we have every year. Skunks dig around old logs, in trash, and wherever beetles can be found, and, if we are not on the offensive, he will make friends with us, and live peaceably in our garden. The little grass snakes and the small brown snakes that we see darting around, eat bugs and beetles almost entirely, and many others eat many insects, tho they will eat bird's eggs, toads, and an occasional hen egg, if they get the chance, and are large enough.

Most of the wasps and hornets feed their larva on bugs and worms. These are among the smaller insect eaters, but there are yet smaller. Ladybugs and their larva eat scale insects, and the aphis. When the green bugs were so thick on the wheat they were quickly followed by a swarm of ladybugs, and the millions of larva these ladybugs turned loose in the wheat-fields soon checked the green bug effectually.

The smallest insect eaters are smaller than the insects they feed on. These are the ichneumon flies. It is the larva of the flies that do the eating, and they prey on a very large number of bugs and worms. The tiny little flies, slender and active, have bodies about an eighth of an inch in length, with a spread of wing of three-quarters of an inch. They look like tiny dragon flies. There are hundreds of different kinds, and each lays its eggs on some insect, worm, or egg of some insect, and their eggs hatch very quickly. The young larva attach themselves to the insect or worm, and suck the life juices of the host until they cause its death.

PUZZLEWITS FOR JULY

1. Beheadment.

Behead a fruit, just grand,
And leave a tract of land.
New Bethlehem, Pa. —Ben Hur.

2. Word Hunt.

How many words can you find in FARM NEWS, such as me, war, arm, sea, etc.? Do not use the same letter twice in the same word. No proper names, foreign words, or obsolete words will be counted.

3. Jumbled Articles Used to Scrub and Clean.

1. Psaloio. 2. Dhuctdlecleoanra. 3. Yewraylermr. 4. Realniep. 5. Uodlgtsd. —Maggie Hiller.

4. Charade.

My FIRST is a coin so bright,
Children put it in their bank.
My SECOND is a class
Of people, high in rank.
My WHOLE, if by any chance
You are lucky to know,
Is a sweet herb that in
Mother's garden will grow.
New Bethlehem, Pa. —Ben Hur

5. Hidden Vegetables.

One vegetable hidden in each sentence.

1. I saw it in the depot at Ontario.
2. While in Boston I only slept but little.
3. Did Tom atone for his misconduct?
4. Bring over a dish of candy.
5. Give that ape another apple.
6. He will not try to bribe anyone.
7. Maybe Ethel will be here today.

New Bethlehem, Pa. —Bob O'Links

Answers will appear in the September number.

Prize Offers.

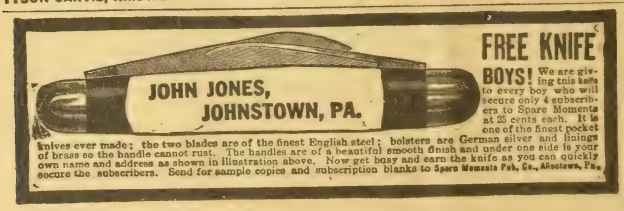
Best list of answers to these puzzles $1.00. Second-best list, a good story book. A surprise prize will be given for best answer to Puzzle No. 2. A picture post card will be sent to the youngest solver this month. A record of all other answers will be kept, and when twenty-five puzzles are correctly solved, a book will be sent to the solver. Send answers every month, and you will be sure to win a prize. Answers must be received by July 31, addressed to Uncle George, FARM NEWS, Springfield, O.

1916 Model 22 Cal. Hunting Rifle FREE

It is a real gun. Shoots with great force and accuracy either 22 short or long cartridges. Has all the latest improvements, including automatic shell extractor, peep sights, bronze non-rusting barrel, walnut stock and grip. The metal parts are of blue steel. Handsomely and durably made.

SEND NO MONEY only your name and address and I will tell you how to earn this dandy gun for a little, easy effort. It will be sent to you absolutely FREE and all carrying charges prepaid. Write today—send your name and address at once.

TYSON JARVIS, Rifle Man Dept. H Springfield, Ohio



Boys-Girls Auto FREE

Looks Like a Big $2,000 Racing Car

Regular 5 h. p. Speedy Gasoline Engine

Runs 60 miles on a gallon of gasoline at a speed up to 25 miles per hour.

The Culver Racer is a "real-for-sure" automobile especially built and designed for boys and girls. It is up-to-the-minute in design and of the very highest quality of workmanship. Its ball-bearing wire wheels are the very latest in motor car construction, having Culver non-skid, 20x2 clincher tires with inner tubes. It has a regular foot-pedal clutch; a capacity of two gallons of gasoline, enough to go 120 miles without refilling. The Culver Racer has a 36-inch tread and a wheel base of 63 inches; springs are the latest cantilever type; shaft drive transmission. The machine has three speeds forward, low, medium and high, and two speeds reverse.

The 5 horse-power engine is air cooled and especially designed; brakes are very substantial, external contracting 5-inch Raybestos; battery or set spark ignition with a high grade magneto. Its weight is 250 pounds ready for the road and is capable of making a speed up to 25 miles per hour on high gear. The tool box is built into the rear of the car which contains a pump and complete kit of tools. The upholstering is of leather design seat and back—the finish is a pretty, brilliant racing blue with black trimmings.

Given Free

All the boys and girls will envy you when they see you riding down Main Street at a merry gait in the Culver Racer that I gave you. If you could see this splendid automobile and go spinning down the street alongside the big cars, I am sure you would not delay in mailing the coupon.

The Culver Racer is so simple to operate that you can learn to drive it in a very few minutes—then there are not a lot of complex parts that are continually getting out of order. This dandy little automobile is so perfectly built that there is nothing about it but what you can readily understand. It will take you quickly and safely anywhere you want to go. If you could crank it up now and hear the steady whir of its powerful motor and see what a perfect machine this little wonder is, I am sure you would want it so badly that you wouldn't rest until you got it.

This is your chance to own a regular automobile—not only that, but I will give you dozens of other beautiful and useful presents that all boys and girls want—just the kind of presents that you have often wished for. You can't help winning if you mail the coupon now and get started at once and do as I say. You will be surprised at how easily you can get the very thing your heart desires.

The many, many dandy prizes that I will give you are too numerous to mention. Baseball outfits, watches, rifles, knives, cameras, etc. You really can't keep from winning if you will mail the coupon now and enter the contest at once. I am mighty proud of my boy and girl friends all over the country and I am always anxious to give them nice presents.

Don't let anyone tell you that you can't get it—you can win and you will win if you will write me at once and do as I say. I have given away thousands of dollars worth of fine prizes in the past few months and I am going to continue doing so.

Write Quick

Don't lay down this magazine until you have clipped out and mailed the coupon. By doing this you will get full information by return mail, telling exactly how you can get this wonderful boys' and girls' auto without it costing you one cent. Mail the coupon today—quickly.

T. JARVIS, The Auto Man

Dept. F Springfield, Ohio

Write your name and address on the coupon below and mail it to me right away. Then, after you have heard from me you will agree with me when I say my plan for giving away *free* automobiles and other grand prizes is so easy that you can't keep from winning. Hurry the coupon to me and you will be surprised at how easily you will be the proud and happy owner of this dandy Racer.

Mail the Coupon Quick

MAIL THIS TODAY

T. JARVIS, The Auto Man, Dept F
Springfield, Ohio

Dear Sir:—I want the Culver Racer. Please tell me right away how I can get it free.

Name .....

Post Office .....

State .....

Street or R. F. D. .....

Box No. .....

JULY IN THE FARM GARDEN

(Continued from Page 14)

may be applied to these plants as to the potatoes. For the small grower of potatoes, some of the commercial preparations which contain poison and Bordeaux may be used, thus killing the insects, and at the same time guarding against the blight. By spraying with one of these preparations every week during July and early August, both insects and blight should be held in check. These preparations, or Bordeaux alone, are also effective on cucumber, squash and melon vines to keep off the blight. A knapsack sprayer is very useful in the small garden and potato patch.

Keep the wheel hoe running this month. If weeds are once allowed to get a start it is a very hard matter to get the better of them.

CANNING AND PRESERVING

(Continued from Page 10)

The sudden change from hot to cold water hardens the pulp, making it firm, as in freshly gathered vegetables. Let get thoroly cold and well drained before packing in cans, then one cooking is enough.

When fruits are cooked in the cans, there is always a vacant space left. This does no harm, as it is a true vacuum, but if can room is at a premium, open the cans, one at a time, and fill from another. Do this work while the contents of the cans are still hot, and then close, return to water (or steamer) and cook for another five or ten minutes. This final cooking is for the sole purpose of destroying the spores that may have been in the air and reached the fruit while being exposed. Absolutely pure air would not injure fruit, but that is something no chances should be taken on.

Mention has been made of putting sugar into the cans with fruit. That is my method, and used because it seems to leave the fruit with a more natural taste. Many, however, make in advance a supply of sugar syrup for use in filling cans. The heaviest of these is made by adding four pounds of sugar to a quart of water, stirring while warming until dissolved; boiling five minutes, and removing all scum. The lighter syrups are prepared in the same way, using less sugar, the lightest in common use being four pounds of sugar to two quarts of water.

There is one method of canning berries that calls for no cooking other than filling the cans with boiling syrup, all that can be put in after the berries are filled in, and then pouring boiling water around the cans (in tub or pan), covering closely and letting stand until cold. The covers were, of course, put in place as soon as the cans were filled.

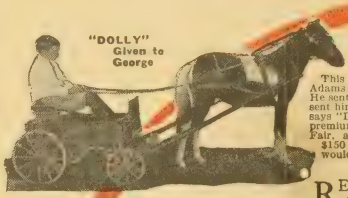
The one canning on a commercial scale will probably use a canner, and full directions for handling tin cans is sent with them, so no mention is made of that work here, but no article on canning-work would be complete that did not contain a plea for the little tools that lighten the labor. Parers for apples and peaches, cherry stoner, pitting spoons for peaches, funnels, and a wire basket are some of the most common, and most helpful.

All These Ponies Given Free

To Boys and Girls

"EARLY BIRD" Given to Edwin

"DOLLY" Given to George



This is George Edwin Adams of New York State. He sent me his name and I sent him "Dolly." George says "Dolly" took the first premium at the County Fair, and he was offered $150 for her, but he wouldn't sell at any price.

Edwin Larson sent me his name and received "Early Bird." Edwin says "Early Bird" is a fine name for his pony because he and his friends go for early morning rides in the summer. Edwin lives in Worcester Co., Massachusetts.

"TRUSTY" Given to Raymond

"HEINIE" Given to Clarence

Clarence Niemoeller, Bartholomew Co. Indiana, sent me his name and I sent him "Heinie." Clarence says, "I would not take $1,000.00 for 'Heinie' for I have more pleasure out of my pony than I would out of so much money."

READ about these beautiful Shetland Ponies I have given away to boys and girls, all over the United States. Besides these eight shown here, I have given away more than 375 others.

Now, I am going to give away several **more Ponies**—some of the finest Shetland Ponies I could buy—and I want every family that reads this paper to have an equal chance. If you are a boy or girl, send in your name, and if you are the father or mother of a boy or girl be sure to send in your child's name. Remember, no charges of any kind and nothing to buy. Just send in your name.

Raymond Krueger lives in Minnesota, where there is much snow. However, Raymond doesn't worry since I sent him "Trusty." If Raymond had not sent me his name he wouldn't have "Trusty" today.

"KIP" given to Anna Ruth

Every Boy and Girl

Has the Same Chance to Get a Pony

Little Flossie Meredith looks as though she is training for a circus, but she is just having good times with "Pat," the pony I sent her. Flossie lives in Jasper Co., Iowa.

CHILDREN Don't put off this chance. Don't wait. Write your name and address in the corner below, cut it off and send it to me. I will then send you the beautiful **Free Pony Picture Book** and you will have an equal chance to receive one of the Real Live Ponies that I am going to give away soon. You stand just the same chance as any other child, and it doesn't cost you a cent. Get a pencil and write your name now.

PARENTS Please show this offer to your child and send in the Coupon. You will be interested in the free Pony Book I send and your child will enjoy it immensely and profit by it. I receive many letters from children telling me how they enjoyed reading the book. Besides **your child may win** one of the Shetland Ponies I am **actually giving away** this season. Your child stands the same equal chance as any other child, no matter where you live.

Here you see Anna Ruth Miller of Logan Co., Ohio, and her new friend "Kip." She says she is glad she sent her name and got "Kip."

It looks as though Ruth and "Mac" were also training for the circus. Ruth says he loves to eat pop-corn. Ruth Mead lives in Saline Co., Mo.

"PAT" Given to Flossie

"MAC" Given to Ruth

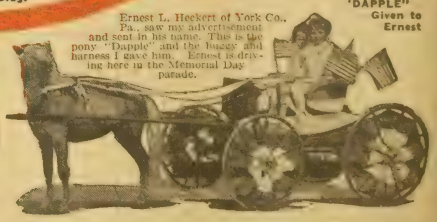
Pony Book Free

Pony Picture and Story Book

Here is a wonderful Pony Picture and Story Book. It tells the stories of hundreds of children and the Ponies I gave them. It tells how the children won them, how the Ponies were shipped to them and the good times they are now having with them. I will send a copy of this wonderful Pony Book free to every Boy or Girl who really wants a Pony and who sends in his or her name. Write your name in the corner below and mail it to me right away.

The Pony King, St. Paul, Minn.
552 Webb Bldg.

'DAPPLE" Given to Ernest



Ernest L. Heckert of York Co., Pa., saw my advertisement and sent in his name. This is the pony "Dapple" and the buggy and harness I gave him. Ernest is driving here in the Memorial Day parade.

Cut out this Coupon and Mail To-day

THE PONY KING, 552 Webb Bldg.
St. Paul, Minn.

Please send me your Free Pony Picture and Story Book and Certificate of Membership, so I can join your Pony Club and get a Pony of my own.

Name.....

P. O.....

State.....R. F. D.....

FAS Ag sem

FARM NEWS

Springfield, Ohio August 1916

The Dual-Purpose Silo

Its Economical Advantages In Producing Milk And Meat

FARM NEWS

Vol. XXXVI Number 8

Published Monthly at Springfield, Ohio, by the

Simmons Publishing Co.

Matthew C. Young, President

Entered at the Springfield, Ohio, Post Office as second-class mail matter. The subscription price of Farm News is 25 cents for one year; three years for 50 cents. Subscribers desiring change of address should give old address as well as new one.

GOLDIE WARREN WINS AUTOMOBILE

Miss Goldie Warren, R. D. 31, Ottawa, Ill., was declared the winner of the Overland Automobile in the contest which closed June 30. The car has been shipped to Miss Warren, and we are sure that she is now enjoying all the pleasures which the ownership of such a handsome prize can give.

TWO NOTABLES DEAD

Nearly every farmer in the United States knows M. W. Savage, of International stock food fame, and his wonderful pacing stallion, Dan Patch. Just recently Dan Patch died, and his famous owner died the following day.

Mr. Savage was widely and favorably known in the business world, and his loss will be keenly felt. He left a large estate and had obtained a high and well-established position among farmers.

$50,000 SUBSCRIBED TO INAUGURATE NATIONAL ADVERTISING OF DAIRY PRODUCTS

A fund of $50,000 has been subscribed by men prominent in the Dairy Industry for the preliminary work of the big national advertising campaign to increase the production and consumption of milk, butter, buttermilk, cheese and ice cream.

It is proposed to raise a total fund of at least $750,000.00 to cover a complete campaign of 3 years for general publicity and organization work.

The men at the head of this powerful and beneficial movement are enthusiastic in their belief that this step means the full realization of the object of the National Dairy Council, now counting 280,000 members, "to advance the cause of dairying in America by promoting the dairy cow and all interests dependent upon her, through co-operative and united effort."

All depends upon the support given the execution of this plan by the individual members of the industry.

The milk-producer, the butter-maker, the cheese-maker, the ice-cream manufacturer, the distributor will now have a sponsor armed to the teeth to combat inimical interests, stop misrepresentations, spread information and education and heighten the standard, the prestige and profit of the industry at large.

The great American people and public will be benefited in its health and its pocket-book.

Over and beyond all that, the success of the campaign must solve the Nation's most troubling agricultural problem—the fertility of its soil, and ward off the impending danger of its loss of standing among the nations of the world as the standard bearer of agriculture.

THE MUSIC TITLES PICTURE-GAME

The work of sorting and checking the answers in the several thousand Reply Books is much more of a task than the judges at first realized. This is work that must be carefully done.

The complete announcement will be made in The Family just as soon as possible, and no labor or expense will be spared to do this. We appreciate the eagerness and impatience of our readers, hence we are hurrying the checking to the utmost.

Do not write us asking whether you have won or not—no advance information can be given out. As soon as the game is decided the result will be published in Farm News where all may read it. It is hoped this can be done in the September number.

We need hardly say that the judges are entirely disinterested and that their conclusions will be based solely upon a comparative study of the pictures and the titles given in the reference-book. They will decide upon the titles which fit the pictures best, that is, which are most appropriate, applicable, and so on, and determine the winners accordingly. These decisions will be absolutely impartial and final.

Nothing Down 10 Days' FREE TRIAL

We Will Send You This Handsome Rocker at Our Introductory Price of Only $2.75 and Give You 4 Months to Pay

Here is our liberal introductory offer to responsible readers of FARM NEWS. If you would like to have this fine rocker just fill out the coupon below and we will send it to you WITHOUT A CENT OF MONEY IN ADVANCE. When you receive it place it in your home—price similar rockers in retail stores—use it as if you had paid for it and if at the end of 10 days you decide it is a real bargain and you want to keep it—then send us 50 cents at the end of 10 days' trial and pay 50 cents each month until you have paid our Bargain Introductory Price of $2.75.

We Take the Rocker Back If You Are Not Pleased

You take absolutely no risk in sending for this handsome Rocker on this liberal easy payment offer. We are an old established firm—in business since 1888. You do not have to send a cent of money with the order and if you do not want to keep the rocker just send it back at our expense. Fill out and mail coupon today.

CROFTS AND REED CO. Dept. C-288 CHICAGO, ILL.

Oak Rocker
No. 90235

Very attractive, rich looking Rocker, made of solid oak with golden oak finish; has cobbler seat measuring 18x18 inches, with roll front; back is 24 inches high from seat. The construction of this rocker is the very best. It is made for us by one of the largest and best rocker manufacturers in this country. We know that you will be delighted with this splendid rocker. Our stock of this pattern is limited. While they last you can obtain one at our special price of only $2.75 on easy terms of 50c a month.

SEND ORDER ON THIS COUPON

CROFTS AND REED CO., Dept. C-288, Chicago, Ill.

You may send me rocker No. 90235. I agree to pay the freight charges and if I decide to keep it, will send you 50c at the end of 10 days and 50c each month until I have paid your introductory price of $2.75. It is understood that the title of the Rocker shall remain in the name of Crofts and Reed Co., until the bill is paid. Should I fail to keep the terms of this agreement, I will return the Rocker to you on demand.

Name.....

Town.....State.....

St. No. or R. F. D.....

The Dual-Purpose Silo

Its Manifold Advantages in Production of Cheap Milk and Beef

By George B. Crane

I CONSIDER one of the big opportunities that has been presented to middle-west farmers during the last few years is the perfection of the modern silo in many forms. Many men have taken advantage of this chance, and the "watchtowers of prosperity" are fairly well sprinkled over the countryside. They are throwing out the helpful light that can be seen on the smiling faces of the prosperous owners who are feeding silage to stock with excellent results. To go back to the old method of doing without a silo would cause many farmers to consider some other business. But luckily for the city man who likes good milk, butter, cheese, roast and steaks, the silo is here to stay, and is becoming more useful and more used.

Most everybody is familiar with the most common advantages of the silo, which briefly are: It provides a large amount of feed from an acre of ground; silage is succulent, and every ration needs some succulent feed; more silage can be stored in a given space than other roughage feeds; a corn crop cannot be lost when planted for the silo, because a season is never too wet to prevent putting corn in the silo, and silage provides succulent feed at times when it cannot be obtained from the pasture, both in dry seasons and during the winter.

Dairymen thruout the country were first to build silos. This was but natural, since nowhere is good silage so much a necessity as on the dairy farm. The best dairy farms include in their equipment one silo for winter feeding and a smaller one for summer feeding. Of course, the larger farms have several silos, depending on the needs from the number of cattle being fed. The dairy cow is a machine for making milk, and what she wants is plenty of palatable, succulent and bulky feed. Corn silage comes nearer than any other one feed in having the characteristics of a ration necessary for large milk-production. Careful experiments conducted in several states show that silage is far superior to shock corn or hay in milk production. Silage fed cows produce from 11 to 13 per cent more milk than cows fed fodder from the same acreage. Contrary to the opinion formerly held, the milk from silage-fed cows is not inferior in flavor or odor to the milk from cows fed dry feed.

One of the reasons why so many of our cows are unprofitable is that they do not keep up their milk flow for a long period. While this is largely due to inherited characteristics, yet if all cows were properly fed on corn silage and other desirable feeds during the winter and in dry seasons, much less trouble would be experienced in trying to keep cows up to their normal flow. A good ration is from 25 to 45 pounds of silage, all the alfalfa or clover hay the cows wish, and seven pounds of grain for each pound of butterfat produced. In addition to being an excellent feed for young dairy stock, silage has a beneficial effect upon the system keeping the digestive organs in the best of condition and is an aid in developing large digestive capacity.

No feeding trials have been more interesting to me during the recent years than those which involved the feeding of silage to beef cattle as a part of the ration. Take Iowa, for instance, a representative state, so far as the beef cattle industry goes. Authorities in that state sent out the word some time ago that corn silage should be put into the feeding program of every beef producer if he wants to fatten cattle economically and efficiently. This program has been taken up on hundreds of farms. I recently saw several bunches of prime beef steers ready for the market, and upon inquiring of the owners I found that everyone had included corn silage in the ration for those cattle.

This man spent money for good silos first and repaired his barn afterward

The addition of corn silage to the ration not only decreases the cost of gains, but usually makes them more rapidly, thus finishing the steers more quickly. Fattening cattle of all ages utilizes silage as their roughage ration, it being equally as good for the calf and yearling as for the two and three year old. For both a short and long feed silage stands out as our most abundant and efficient roughage. Gains are made more rapidly and cheaply than where clover or alfalfa is fed. Of course protein supplements, such as cottonseed meal, must be fed with silage in order to make the best fattening food. The addition of dry roughage to the ration is often profitable, as the cattle seem to crave a certain amount of dry feed.

Experience shows that silage fed heavily during the early part of the feeding period gives best results. At this time the grain ration can be cut down a little. For quick finishing it is best to decrease the silage during the last part of the feeding period and increase the grain accordingly. The difference in the shrinkage in marketing of silage-fed and dry-fed cattle is so small that this factor need not be taken into consideration. The amount of silage to feed depends upon the age of the cattle, but from 20 to 35 pounds of silage per day is ordinarily fed to a two-year-old steer, along with the concentrates.

For fattening lambs and sheep, silage has been found to be a very satisfactory ration, especially in view of the fact that gains are made more cheaply than with other feeds. Some care must be taken in putting lambs onto feed when silage is used to prevent scouring. The quantity for lambs, with other feeds, should not exceed two pounds, and yearling sheep three pounds. Since the hog's digestive tract is fitted to handle concentrated feeds, silage is too bulky, too fibrous and too low in digestible nutrients to prove satisfactory in growing and fattening swine. It is still a problem whether silage shall be included in the horse's ration. Great care must be taken not to get a bit of mouldy silage to the horse, as it is likely

This farmer said he would not think of building a barn these days without a silo

Continued on page 11.

Preserves and Their Allies

Underlying Principles of Various Methods Fully Explained

By Eva Ryman-Gaillard

THIS month we will study the heavier and richer fruit preparations that may be kept in small jars or jelly-cups (what the French call gallipots) taking the old-time "preserve" prized by an earlier generation of housewives first, as it was the forerunner of all later sorts and is still valued. The original preserve is made by the "pound-for-pound" rule, the fruit being cooked in the syrup until done. If the syrup is heavy enough this ends the work, but with juicy fruits that thin the syrup the fruit is taken out and the syrup cooked down until almost like jelly, when it is put with the fruit, and all put into whatever sort of receptacle may be ready, the secret of the preserve being to have it rich enough to keep without being in air-tight cans. In cooking, care is taken to keep the shape of the fruits as much as possible, as the skill of the housewife is judged almost as much by the appearance of the preserve as by its taste.

The newer "sunshine" preserve is more delicate, and well worth the extra trouble involved in its making. As the name implies, supshine is an important factor, but if the fruit is ready when the sun will not shine, a warm (not hot) oven will make a fair substitute. All small fruits are preserved whole tho large plums and peaches should be halved, and all pits removed. Plums having a leathery skin would, like peaches and such fruits, be skinned before preserving.

Prepare the fruit. Weigh it and an equal weight of sugar. Place in preserving kettle in layers, and let stand over night if convenient. Put over the fire and cook gently for about twenty minutes, skimming off all scum. Strain the fruit from the syrup and arrange on plates. Cook the syrup until quite heavy and pour over the fruit. Keep in the sunshine (or the warm oven) for a couple of days, or three if needed. Keep adding the syrup until all has been used and absorbed by the fruit. Put into glasses, or cans, and seal as for jelly. Stir up each day, using a fork, and turning the fruit carefully to avoid breaking it.

In the south, where days of hot sunshine can be depended on, the fruit is not put near the fire, all the cooking being done by the sun.

CONSERVE

Someone called conserves "glorified preserves," and they were not far wrong. The pound-for-pound rule is followed, but the fruit is cooked until smooth and rather thick before the sugar is added, and then cooked until it is a smooth mass that will retain its shape when cold. When just right it may be sliced like cheese when used.

What is known as a "dry conserve" is made by cooking the fruit in the heavy syrup until clear, then draining from the syrup and drying in the sun or the warm oven. This is kept by packing in sugar, and is eaten from the fingers as one eats candy. The syrup left from this dry conserve should be bottled and sealed for use in various ways.

MARMALADES

Marmalades are not unlike conserves, except that less sugar is used, and the cooking-time is less. Every fruit and almost every possible combination of them is used, as well as some vegetables, tho of them all the orange marmalade is considered the best, and it is, also, the most bothersome to make. The following recipe comes from California, and, after years and years of testing, stands at the head of the list: Put fine, seedless oranges into cold water and let stand half an hour, then scrub and dry them with a cloth. Cut as many oranges as wanted lengthwise into quarters, and then slice across the sections as thinly as possible. When doing this discard the rind of every fifth orange. Weigh the sliced fruit, and to each pound add three-fourths of a pint of cold water. Mix well together and let stand, covered, twenty-four hours. Put in an agate or porcelain kettle and bring quickly to the boiling point, then let simmer until the rinds can be easily pierced with a straw. Set aside for another twenty-four hours. Weigh again, and to each pound add a pound of granulated sugar. Boil slowly, but steadily, until the rinds are transparent and the syrup thick. Put in cups and seal when cold.

Lemon marmalade is made in the same way, using a pound and a half of sugar to a pound of the fruit weighed after the first cooking.

In making marmalades from fruits like peaches, where the skin is not used, only one cooking is needed. With peaches and all sorts of fruits a sliced orange, lemon, or both, to every pound of fruit adds greatly to the product.

OTHER VARIETIES

Among other preparations are jams, butters, honeys, cheese, leathers (sometimes called cloth), candied or crystalized products, and many that might be classed as either of several sorts, and called by various names.

Jams are toothsome for sandwiches, and fine for use as cake ingredients. They may be made of fruits that are too ripe for preserves, and others where shape is to be considered in any way, for, more often than not, the fruit is put thru a crusher of some sort to hasten the process. In making butters, long, slow cooking and much stirring is needed to secure the "smooth as butter" consistency desired.

Fruit honey and fruit cheese are made of quinces, peaches, apricots, or anything that will be of suitable color when done—tomato honey made from yellow tomatoes is simply delicious. These belong to the "pound-for-pound" class, and differ little except in the time of cooking, the cheese needing to be cooked to a heavier consistency.

In making jams certain spices are used, depending on the kind of fruit used and the tastes of the makers. Butters, too, have some milder spices in their composition. Honey usually has lemon juice or a bit of ginger root cooked with it, and cheese may have these, or nothing but sugar. Whatever is used it is well to remove the slices of lemon or the ginger root before placing in cans, as the strength continues to increase as it is drawn out by the fruit, and often becomes too strong to be agreeable—much stronger in flavor than seemed when the product, whatever it is, was put into the glasses.

Fruit leather, or cloth, is a cross between a heavy conserve and a candied fruit. For a couple of recipes to help those who have never made these, we will give one of peach and one of tomato: Pare and remove stones from fully ripe peaches; to each pound of fruit add one-fourth of a pound of sugar. Stew slowly, mashing the fruit as it boils. When cooked to a thick paste spread on a board or large platter (the top of a marble-top stand is the finest thing known) which has been well buttered and place in the sun. If not dry enough at sundown, bring it in and repeat drying next day. When dry enough that it has lost all stickiness, sprinkle with sugar and roll up like a roll of leather. Keep in a cool, dry place. Slice thin slices from the end of roll and serve with wafers for luncheon, or tea.

For the tomato leather, take the meaty part of a dozen tomatoes, four sliced onions and two diced carrots, and cook together until they can be put thru a fine colander. After sifting add a dozen sprigs of parsley, two bay leaves, a tablespoonful each, of salt, sugar, ground cloves, mace and celery seed (the seed in a thin bag to be removed after cooking), and a small teaspoonful of cayenne pepper. Cook to a stiff paste and dry as above. A slice of this provides a delicious seasoning for soups, stews, macaroni or similar dishes.

Quince bars are made like the peach leather, except that a pound of sugar is needed for each pound of fruit. When the paste has been dried, cut in bars.

roll each bar in fine sugar and dry a second time before packing away. Each bar may, if desired, be wrapped separately in fine waxed paper.

When we get to the candied or crystalized fruits, the secret lies in making a very heavy sugar syrup and dropping the prepared fruit into it when boiling, leaving the fruit just long enough to be sure it is thoroly scalded thru, then lifting and draining a second as held on the fork, placing on plates and drying in the sun or a warm oven.

Take a name for your products, and work up a trade, either among private customers or the city merchants. Believe me, if your goods are right the trade is easy to hold when once you have them introduced. If I, for instance, wanted to do this work I would label them as "Gaillardia" products, using the name of a flower that has my own name as a base tho "Sunny-Farm" products would do as well—or anything distinctive.

The same sort of judgment must be used, too, in such little things as degrees of ripeness, for fruit for preserving should be slightly under-ripe, rather than a particle over-ripe. The same is true of that used for candied fruits, or in any way where it is desirable to retain the form. On the other hand, fully or slightly over-ripe fruits are best for jams and butters, or anything where they will be stirred or sifted to a mass.

MY BY-PRODUCT EARNINGS

First Prize ($3.00) Contribution

By Mrs. G. Shull, Iowa

A few years ago we were living on a small farm in Michigan, and were having the time of our lives in trying to make ends meet. Finally I decided to take a hand at earning something, for I was not content with a hand-to-mouth existence.

We had a ten-acre pasture that was very poor pasture indeed, as it was what is commonly called cutover land, and the stumps had never been removed. The stumps gave me an inspiration, and my small son and I went at them with sledge, wedge and a good sharp axe, and soon had a big pile of good pine and hardwood kindlings. These we put up in bundles, using old baling wire and binder twine, gathered up around the barn and outbuildings, to tie our bundles.

Whenever the men went to town with an empty or partly empty wagon son went along, took several bundles of kindlings, and peddled them out to housewives at 20c per bundle. The kindlings averaged 22 inches long, and we made them up in bundles of 100 slender sticks. In several instances we took orders for an entire load of kindlings, and, in most cases, were allowed to deliver them at our convenience.

In all we sold 541 bundles. We paid out not one cent, and made a clear profit of $108.00. Of course, we did not grub out the stump roots, but for once we made that ten-acre lot pay a small profit. That same year I gathered basketful after basketful of catnip that grew in the garden and along fence rows. I cured it, put it up in small packages and sold it to city women and children who had pet cats. I received 5 cents per package for it, and sold $9.80 worth. I paid $1.00 for large, cheap envelopes to make the packets, and 50 cents for advertising, leaving me a clear profit of $8.30 for an otherwise waste product. Apple peelings were turned into splendid vinegar at no cost watever, and sold at 30 cents per gallon. I realized $4.20 for the vinegar sold and had a big supply left for home use.

Over-ripe peaches were turned into a delicious marmalade. I made it when preparing meals, consequently was no cost for extra fuel. Sugar cost me $2.00 and jelly glasses (7-ounce size) were purchased at 36 cents per dozen. Eight dozen cost me $2.88. I sold 8 dozen glasses of the marmalade at 15 cents per glass and glass to be returned. The marmalade netted me $9.52 and the returned glasses I sold to my regular butter and egg customers. They bought by the dozen or more glasses, and were well pleased with the marmalade.

Hen feathers I discovered to be a source of income. When dressing chickens and hens for market I had formerly burned or buried the feathers. I decided to save them. I washed and dried them and shook them until they were fluffy, then tied them up 2¼ pounds (enough for a good sized pillow) in empty flour sacks. I sold enough to make a pair of pillows for $1.50, and sold $4.50, all told, and netted $4.45, for it cost me 5 cents (so estimated) for the large bar of homemade soap I used in washing the feathers. My time I did not count, and I used sun-warmed soft water. I was not over an hour washing and fluffing the feathers. I washed them in sacks, run them thru the clothes wringer, and hung them in the shade in a good breeze to dry.

My net income for these by-products for the year was exactly $134.72. Not a great deal, I'll admit, but it all came from by-products, and was just like finding the money, for formerly these by-products had been allowed to go to waste—now I save them.

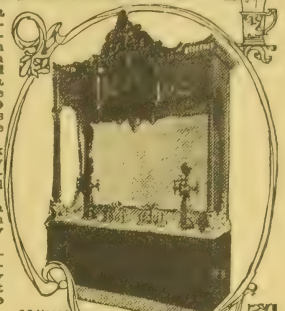
The Soda Fountain
An American Institution

Did you ever stop to realize that the soda fountain is as much an American institution as the sausage is a German institution, "French Bread" is an institution in France and the Plum pudding an English institution? And the funny part of it all is that though one seldom sees a soda fountain in Europe (and then only for the sake of attracting American tourist trade) just as soon as a foreigner gets to this country he too seems to learn to love the soda fountain.

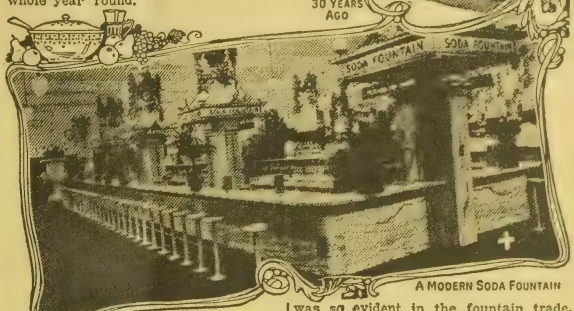
But, if you are old enough to look back a few years you will remember that only comparatively recently has the soda fountain been either so popular or so beautiful and hygienic.

You may remember what these old soda fountains looked like—what poor provision they made to supply even their scanty trade.

What has wrought this great change—what has made the soda fountain a national institution—a comfort and necessity in the daily lives of men and women—not only during the hot summer time but the whole year 'round.



30 YEARS AGO



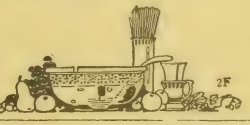
A MODERN SODA FOUNTAIN

The answer lies in that delicious beverage Coca-Cola. Soon after its introduction at the fountains people began to ask more and more for this distinctive drink.

Along with its demand came the demand for more places that would serve it. Soda fountains sprang up everywhere, improving in beauty, neatness and attractive service. It is a fact that the part the soda fountain and all its allied industries have come to play in the economic life of the nation today is due largely to the stimulus given to it by Coca-Cola.

In the same way has the call for bottled beverages grown. In 1899 Coca-Cola in bottles was first put on the market and the same quick recognition and appreciation was accorded to it in this form as was so evident in the fountain trade. The same principles of purity, goodness and deliciousness made another astounding record of growth possible. Bottling plants have been established all over the country to take care of this branch.

Just think of it—over 90,000,000 glasses and bottles of Coca-Cola are drunk every month. So—just as much as is the soda fountain a national institution so is Coca-Cola the National Beverage.



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32 by 3 1-2	8.80	9.75	2.60
33 by 4	11.95	13.65	3.30
34 by 4	12.10	13.95	3.40
36 by 4	12.25	14.25	3.60
36 by 4	12.75	14.75	3.60
35 by 4 1-2	16.80	18.55	4.25
36 by 4 1-2	17.10	18.96	4.35
37 by 4 1-2	17.45	19.50	4.50
36 by 5	19.25	21.10	5.15
37 by 5	19.75	21.75	5.25

* All tubes are Grade—Guaranteed one year against defects.

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1917 Model

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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

Seeding the Wheat Crop

Preparation of the Seed-Bed a Most Important Operation

By Lester J. Meredith

THE very basis of success with the wheat crop lies in the care and common sense with which the ground is prepared for the fall seeding. To be sure, the importance of the later harrowing and careful fitting of the ground cannot be overestimated, but it is the early plowing and preliminary harrowing that affords a safeguard in checking the loss of soil moisture and developing available plantfood to hasten the early growth of the young plants before the cold weather checks their growth in the fall.

Deep plowing is not a sound practice in all kinds of soil, but in a vast majority of cases it is essential to soil improvement and increased crop-production. To change in one year from shallow to deep plowing is seldom a judicious practice, but on most farms it would pay to annually increase the depth until the cultivable soil would be eight or nine inches deep. Any attempt in the direction of deepening the soil must be considered in relation to the drainage conditions, amount of organic matter incorporated in the soil, and the crop rotation being practiced. Many soils have been badly damaged by deep plowing before being improved in texture and chemical content by an intelligent course of treatment.

After the ground is plowed the furrow slices should be cut and thoroly refined, so that the soil particles will separate into a mellow surface. Good plowing cannot produce its best results when the after tillage is insufficient or ill-adapted to the requirements of the crop. No mistake can be made by plowing and fitting the land as well as one knows how.

Tough, clayey soils require the use of the disc properly to prepare them for seeding. Spring-tooth and smoothing harrows are too often used when the disc would give better results. In deep, mellow soils, well supplied with humus, it does not take much tillage to work up a good seed-bed for the wheat crop, and the job can be done with a spring-tooth and smoothing harrow, but clay soils, which are tough and hard, and, as a rule, deficient in organic matter, require a deal of careful work to establish a superior seed-bed. Disc harrows are imperatively needed in fitting such ground for wheat. The ground should be cut both ways and the field recrossed with the sides overlapping until the furrow slices are cut into small pieces and every square foot turned by the plow thoroly pulverized. It is no easy problem to prepare tough clay soil for the wheat crop, but one cannot secure maximum returns from this type of soil unless he devotes time and labor to getting it into proper condition for seeding.

Establishing congenial soil conditions for plants is one of the fine arts of agriculture. American farmers have not given as much attention to providing congenial conditions for their plants as they have given to fashionable barns and stables for their animals. Plants are equally responsive to the same kind of treatment, and thrive best where the conditions of living are improved.

Plants demand moisture at all stages of their growth. They do not get moisture from above at all times. Sometimes there is a scarcity, sometimes too much, hence the permanent supply must come from below. The ideal seed-bed requires close capillary connection of the furrow with the subsoil. It can then draw moisture from below, and enough of it, providing the subsoil has a water-holding capacity, such as porous clay which takes up water and holds it until needed by the growing crop. Whatever the depth of plowing, or disking, it is very important that the capillary connection with the soil below must be secured. This is why successful wheat growers have the turned furrow well packed, to press the soil particles together, and enable them to draw up moisture from below. They do not wish a cloddy under furrow, nor coarse manure or trash between the furrow and subsoil. It pays to use the disc harrow to mellow the surface of the soil before it is plowed, to prevent the formation of clods which create air spaces that interfere with the upward movement of moisture, and consequently with the germination of the seeds.

The surface of the seed-bed should be reasonably fine, not dust, but a nice, crumbly, mellow surface. The newly sown seed must have warmth and moisture to enable it to germinate quickly. The soil below the depth the seed is planted should be compact so that it will hold moisture, and make conditions ideal for the seed to germinate and grow. There is no one way to prepare seed-beds for the wheat crop that will apply to all conditions. When seeded on corn, bean or potato ground, a good seed-bed may be secured by thoroly disking and harrowing the field early in the fall, as soon as the crops are removed. Never give the field one disking, or the crop will come up uneven, or never try to remedy this by cross-disking, as the field will show streaks in both directions. The better method is to drive so that the disc harrow will overlap one-half, allowing the outside to turn the furrow strip left in the center. This should be followed by the spring-tooth and smoothing harrows until an ideal seed-bed is obtained.

Without good seed, with strong vitality and germinating and growing powers, fertility and careful preparation of the soil are practically wasted. With good seed a fair crop may be expected, even on badly farmed land. This brings up the question at once, "What is good seed?" The first requisite of good seed is a strong germ which will quickly start into growth when sown in a warm soil. Everyone recognizes the much more vigorous growth made by a pig or calf that is strong and healthy at birth. The same principles apply to a young wheat plant that apply to pigs and calves. Unless the strong germ is present, sending out strong rootlets with vigorous feeding zones, the plants start in life poorly. Quite as essential as a

strong germ is a large supply of starch which is converted into plantfood for the small plants. This is why large grains furnish a stronger growing plant than shrunken, immature seed, and is a strong argument for the grading of the seed with a modern fanning-mill or grader.

When broadcasted and then disked and harrowed, no matter if the work was properly done, there was always some seed near the top that would not germinate and grow, and still more with so light a covering that, altho it might start, it could not develop a strong and vigorous plant. Not only has the grain drill demonstrated that all the grains may be depended upon to grow, but the uniformity of ripening is much improved, the yield greater, and the stand of clover and grass where this is an item is almost wholly insured, especially where the drill rows run north and south, thus allowing the tender clover and grass plants to become hardened to the heat of the sun before the crop is cut, and also allowing them plenty of room to grow and develop.

The kind and amount of fertilizer to use depends so much upon soil conditions that one cannot advise what is best for every farm. As a rule, it pays to use a moderate amount of fertilizer, even if the ground is in a pretty fair state of cultivation. This year, owing to the outlook for high prices for wheat, it might be policy to use a larger amount of fertilizer than usual. It gives the young plants a start, and helps the clover and grass to obtain a start early the next spring. If heavy quantities are used in order to insure a catch of clover and grass, it is well to apply a heavy application of mineral fertilizer to the plowed ground, get it thoroly worked into the soil before seeding, and drill in a moderate amount of fertilizer carrying a fair amount of nitrogen at the time the seeding is done. It is the writer's experience that about 200 pounds of some high-grade fertilizer drilled at the time the wheat is sown is the most profitable amount, but our wheat is sown on potato ground where from 400 to 800 pounds of fertilizer are used for that crop in the spring, in addition to ten loads per acre of stable manure.

BEATING THE HESSIAN FLY

Upon the authority of the U. S. Department of Agriculture, as set forth in Farmer's Bulletin, No. 640, the latest approved method of combating the Hessian fly menace is to sow late and quicken the growth of the wheat plant in the fall by the application of a quick acting fertilizer, that the plant shall have the vigor to resist the depredations of the fly in the first instance and to have such recuperative powers as to recover quickly from whatever damage it does sustain.

The recommendation of the department is: "The application broadcast of some quick acting fertilizer containing a large percentage of phosphate, made as soon as general infestation is apparent, will cause the plants to tiller more freely and give them sufficient vigor to withstand the winter, and thus increase the number of healthy stems the following spring."

The very common sense of this recommendation should make an appeal to the farmer, for he actually is killing two birds with one stone. By giving his wheat plants the kind of food they require and by assisting them to a rapid and vigorous growth he not alone is putting them into condition to withstand the attacks of the most destructive of all wheat pests, but he is as well placing what amounts to an insurance policy of crop quality.

Hitherto the farmer has had practically no recourse in his efforts to control Hessian fly damage but to plant late, so late indeed as to escape the two week's active mature life of the fly just before frost. Sometimes late planting has hurt the wheat as much perhaps as the fly might have done, but under the quickening influence of the fertilizer method the bad effects of late planting may be largely overcome. Thus the new method is a supplementary method to a plan already approved and as such should be extensively adopted.

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COLOR AND RICHNESS OF MILK

A familiar sign on which judgment is based as to the richness of milk is its color. Because skimmilk appears more white or blue than the whole milk from which it was separated, the conclusion is formed that the degree of yellowness denotes the degree of richness. To learn the error of this conclusion, all that is necessary is to test a dozen samples of different cow's milk, all of the same herd. It will be found that some of the most whitish samples test among the highest.

Breed and individuality affect the richness of the milk, but the color does not vary in direct relation thereto. Feed also affects the color, quite independent of the richness. During the season of green grass the milk and butter are yellower than at any other time of the year. Ask any cheesemaker whether or not the yellow milk of this season is the richest. He will say it tests lower than during any other months of the year, and that it takes more pounds of milk to make a pound of cheese. Here again the color test fails completely.

But there is one test which many a dairyman has sworn by with all confidence. He would set samples of different cow's milk in shallow pans, and judge by the thickness and toughness of the cream layers which rose in the different vessels. I remember hearing a quaint old character boast of one cow whose milk raised so tough a cream that "a mouse could run over it and it wouldn't go down." Another said he could skim the cream off a certain cow's milk and hang it upon a nail. Such milk was believed to be wonderfully rich in butterfat. It would surprise many of these men to be told that their tests have indicated the opposite of what they supposed.

Given two samples of milk, one of which raises an inch of cream in a glass tube, while the other raises three-fourths of an inch, the latter is likely to be the richer sample. The deeper layer of cream will probably be from a cow whose milk has very large fat globules which rise quickly, carrying with them a considerably quantity of milk serum, which adds to the bulk and toughens the consistency of the cream. The other cow's milk has small fat globules which find their way slowly to the surface, carrying with them a lesser amount of milk serum, reducing both the quantity and consistency of the cream.

Toughness no more indicates richness in cream than it does in pastry. The more shortening in the pie-crust, up to a reasonable amount, the crisper and mellower it will be. The less butterfat in the cream, the less tough it will be as a general rule. Milk of Holstein and Ayrshire cows usually has small fat globules, and their cream layer is generally quite thin. Accordingly it often tests much better than one would suppose from the depth of the cream layer. Jerseys, Guernseys and Shorthorns give milk with larger fat globules, and therefore their cream separates and churns more thoroly than that of the Holstein and Ayrshire.

CLIPPING THE UDDER

It is not at all uncommon among dairy cows to find the udder covered with a thick growth of long hair, which may be of some protection to the udder in some respects, but from a sanitary standpoint and a comfort to the cow while she is being milked, these hairs are detrimental. Under the usual farm conditions this growth of hair is commonly covered with filth, and even in well-kept dairies this hair, unless kept well clipped, will collect more or less dirt and trash.

In many cases too these hairs will persist in falling into the milk pail. To prevent occurrences such as these the udder should be clipped closely at least twice each year, and in this way prevent the accumulation of filth.

Leaving these long hairs on the udder is a good way to make a bad kicking cow out of a heifer that has the making of a fine cow. When the milker clasps the teat during the milking process, the long hair surrounding the upper part of the teat is included, and as each stream is drawn these hairs are given a hard vigorous pull. It is no wonder then that the young cow protests with a lively kick. A common pair of clippers, such as are used on horses, is the best for clipping the hair from the cow's udder. The clipping should extend over the flank and thigh on the right side.

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Getting Ready for Winter Eggs

By L. H. Cobb

WINTER layers are the profitable layers, unless we are able to make people believe enough in our stock to give us a big price for eggs for hatching. The hatching-egg business can never be more than a side line with a large flock, unless we are ready to do a lot of advertising and go to a lot of expense to build up our flocks to hold people's confidence. And then there are so many outside conditions that make for success or failure that we can never satisfy but a percentage of our patrons, no matter how well we serve them.

It pays to build the flocks on the very best lines, even as a commercial venture, and any eggs sold for hatching at a good price is so much gained. By careful selection and a little judicious trapnesting we can make our breeding pens worth a good advance over commercial prices, and we will find buyers, too, but it is the commercial side that gives the real body to the business, and it is this side we should have in mind in our selection and work. To this end it is advisable to run our flocks largely to pullets, keeping only the choicest hens, and most of them in the breeding pens.

We all understand that pullets must be hatched early and made to mature quickly if they are to lay in winter, but there are some other requirements. It is a very common custom to allow the pullets to roost in the coops on the ground until late in the fall. This is often a serious mistake, for when the cool fall rains come these coop floors are apt to become wet. Chickens cannot roost on damp floors without paying the price in roup and rheumatism, either of which will cut inroads into your egg yield during the winter months. Roup will stay with them, too, and will soon infect those not catching it from the dampness. A severe epidemic of roup condemns the flock for me, as I will not attempt to make them pay a profit, and it doesn't pay to keep them if they don't pay. I would not think of breeding from stock that had ever been roupy. Vitality of the highest order is a requisite of breeders, and no hen that has ever suffered from roup will be up to the standard I like to set, no matter how well she may seem to have recovered.

Begin feeding for eggs early—when the pullet is four months old if of a small or medium breed, and not later than five months with the larger breeds. The best success is secured by using a fully balanced ration if a large flock is kept on the same range. Where flocks are divided up, and scattered in colony houses, the hens will get more bugs and green stuff, and they will not need to have these supplied so freely in winter. You can depend on getting more eggs from the colony-house method, tho the labor involved will be more also, unless special provisions are made to take care of it. If a good supply of scratching material is kept on hand, and each hen allowed four square feet of scratching-floor room, and the ration is kept fully balanced, the difference will not be so great.

My method of balancing the rations has been to mix meat meal into the mash in a ration of one part meat meal to six or seven parts of other ingredients. Sometimes I use almost pure bran for the mash, and sometimes I mix several grains ground finely, and alfalfa meal, the latter forming about a fourth of the mixture by weight. If it is not all ground fine the hens will waste much of it by picking out the larger particles. I have never found that they were very bad about pulling out the finely ground mash. About seven per cent of the whole ration of meat meal is what I like to use, and I think that the amount of this mash that the average flock will eat, when the grain is taken into consideration also, will give about this percentage of meat meal for the whole. I like to keep granulated poultry bone, oyster shell and pulverized or granulated charcoal where they can run to them at will and they will use bone to help out where there is a shortage of meat meal. Charcoal will do much to ward off any disease that threatens, and if they will not eat it without, I would mix some with the mash. If you give the hens a boiled dinner once in a while, and salt it just about the same as you would if you were making it for yourself, it will not be necessary to salt the mash, but otherwise I would mix in a pound of salt to the hundred pounds of mash. Five pounds of oil meal to the hundred pounds of mash will help to keep their digestive tract open, and make their feathers glossy.

A GIRL'S PROBLEM

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In Farmers' Bulletin No. 640, U. S. Department of Agriculture, fertilizers are recommended to give vigor to late sown crops and resistance to the Hessian Fly.

Write for our map showing best dates for sowing wheat in your locality; also our Bulletin, "WHEAT PRODUCTION," both mailed free.

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WHEN WRITING TO ADVERTISERS PLEASE MENTION FARM NEWS

The Farm Garden in August

The Successful Gardener Reaps the Reward For Labor This Month

By Charles H. Chesley

THIS is the month when production should be at the maximum. The garden now is a perfect riot of good things. July brought us some of the vegetables, but August gives the fullness of reward for all our labor. It is not too late to think of planting certain crops, and transplanting such plants as cabbage and cauliflower is still in order. Last year our fine crop of Brussels sprouts were set in the permanent rows in August, and the Early Snowball cauliflower was transplanted fully as late. We usually sow turnips of the flat varieties about the tenth of this month, and winter radishes are sown even later. For wintering over, spinach is planted the very last of the month, or even in September.

The gardener should not forget to provide for a supply of salads for fall use. For this purpose sow lettuce, endive and Chinese cabbage this month. The last named is not very well known, but it makes the very best kind of salad, the hearts of the plants being tender and of snowy whiteness. Endive, to be at its best, requires a few days of blanching, which is done by earthing up a few plants at a time.

Cultivation should be kept up this month, not only to keep the weeds from getting a start, but also to conserve the moisture. This month is usually dry, and often the gardens suffer for want of water. Keeping a dust mulch between the rows holds much of the moisture in the soil and saves it for the plants when they most need it. This is the secret of constant growth during the drouth of summer.

The weeds that are allowed to develop and form seed at this time will cause a lot of mischief next year. The careful gardener digs out every one, and consigns it to the compost heap before it has ripened seed. He goes over the melon, cucumber and squash patches and pulls out all that show above the vines. At this time these plants are too far developed to allow of cultivation between the rows. When the vines are well developed, and a sufficient number of fruits set, it is well to pinch off the ends and the most of the side shoots in order to throw the energy of the plants into the melons. This also applies to squashes, but is not as necessary for cucumbers.

One of the most delicious vegetables for summer is the so-called vegetable marrow. There are several varieties, known variously as Italian and English. Some are bush sorts and others are running. They are much better in quality than the ordinary summer squashes, and fully as easy to grow. Last year we had them in abundance, and as this is written the vines promise well for August and September. To be at their best, marrows should be eaten before they are fully ripe.

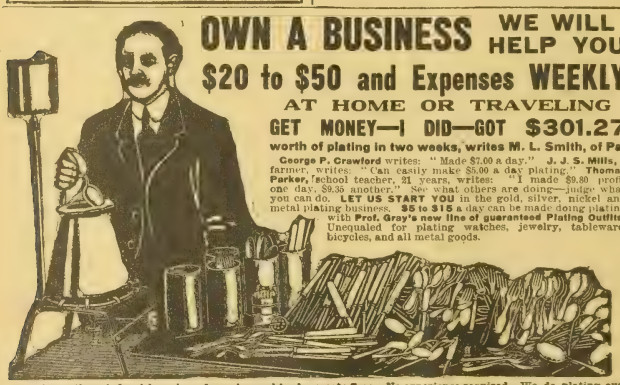
The value of the garden is not all in what it furnishes for the present. We intend to put up in cans enough for use the entire year. In our own case this is done with a common wash boiler, as we use the cold-pack system. Glass cans of the lightning type are employed, and the process is really simple. Any one who wishes to preserve the products of their garden for winter use should write to the Department of Agriculture at Washington for the free bulletins on the subject.

Last year we canned spinach, beet greens, young beets, turnips, carrots, kohl rabi, asparagus, string beans of wax, green-pod and Kentucky Wonder types, shelled beans, lima beans, peas, sweet corn, tomatoes, cauliflower and Brussels sprouts. In addition strawberries, raspberries, blackberries and cherries were preserved by the same method. Later in the year, many cans of sweet and sour pickles, ketchup, Chilisauce and other mixtures were prepared and put away on the cellar shelves. We have found this to be the most valuable feature of our gardening from an economic standpoint.

SEED GROWING AND SELECTION

For some years we have been growing our own garden seed, that is a small part of it. This year we have gone into the business more extensively, not with the intention of driving out the big firms, but with the idea of improving our own garden. What we raise will be for our own planting, and it is not because we wish to save the small cost of buying a few seeds, but because we believe there are considerable possibilities in selection and breeding for certain purposes.

Some years ago we started saving seed from the Chalk's Early Jewel tomato. Each year we have saved the fruits from the best plants, and today



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GRAY & CO. PLATING WORKS 2906 Gray Building, CINCINNATI, OHIO

our own seed will germinate much more quickly and uniformly than any we can buy. Every tomato that we save seed from is of perfect type, also is an early ripening one. It also grows on a perfect vine that has not been stunted in growth from the time it was started in the seed flat.

Last fall we saved a few of the most perfect beets, carrots, cabbages, turnips and rutabagas. These were set in the garden in the spring and at this writing the prospects are good for us to harvest a sufficient supply of seed for our own use. Last year was a wet season, and the pole lima beans did not get ripe. As a consequence, when the frost killed the vines, there were very few ripe pods. What there was, however, were carefully saved and planted this spring. At this writing those of our own raising are considerably in advance of plants grown from seed purchased from a distant seedsman. It is undoubtedly a fact that most vegetables do better from seed grown in the same locality. It is not true, however, in all cases, for certain kinds can only be grown in limited areas in favored sections of the country.

There are pleasing possibilities in selecting seed corn, beans and peas for seed, also potatoes for planting. One should take into consideration the whole plant when choosing seed. The ear of corn may be perfect but it may be later than the type. Do not pick off all the early peas and save the last to mature for seed. This policy soon destroys the value of the seed. The same is true of early beans, sweet corn, cucumbers and other products. Save the ones that mature first, and you will have as good seed as can be purchased, and in most cases better.

THE DUAL-PURPOSE SILO

(Continued from Page 3)

to have fatal results. Some farmers have fed silage to brood mares and horses at rest during the winter with good results.

Since the time for filling silos is not far distant it may be well to recall some of the precautions that must be taken in putting the crop in the silo. Ordinarily it is considered the best time to harvest corn for the silo when the kernel is in the doughy stage, or in the case of common field corn, when it begins to dent. It is our experience that corn should be allowed to mature as long as possible, so as to secure the greatest amount of fodder and nutrients. Corn that is too green makes sour silage, and there is usually greater loss in the decomposition of the contents than in the case of a well-matured crop.

Before filling, the silo should be properly cleaned. Any water or decomposed silage standing in the bottom should be removed, and fresh straw placed in the bottom to the depth of 18 inches. The sides of the silo must be cleaned off carefully. A corn harvester is an economical machine to use in harvesting silage corn. A big cutter that will cut fine is always more desirable than a small cutter altho the small outfit will do in some cases. One-half inch cut, or even finer, is better than longer cuts, because the secret of good silage is well-matured, reasonably dry corn, cut fine, so that it will prevent rotting. Under such conditions it is not necessary to put water in the first half of the filling, but in the last half it is best to mix a little water with the silage while filling. This water should be put in at the blower, so as to beat the water into the silage. After the silo is filled, large quantities of water should not be pumped in at the top. When the silo is full some cheap material can be put on top. Good clean straw thoroly moistened, will answer.

Soybean hay, cowpea hay, clover, alfalfa and sorghum are other crops that can be siloed. They are usually put in in a combination with corn.

While thinking of silage let me take the space to caution farmers generally to be very careful about feeding any mouldy or spoiled silage. Several cases have been brought to my attention recently of the poisoning and death of both horses and cattle, resulting from the feeding of spoiled silage. No matter how well the silo is constructed, there will always be some spoiled material on the top and around the edges. The precaution should always be taken to remove this and put it somewhere where the stock cannot get hold of it.

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The original **Postum Cereal** must be boiled; **Instant Postum** is made in the cup "quick as a wink," by adding hot water, and stirring.

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Latest 3-Passenger Model

The Culver Racer is a "real-for-sure" automobile, especially built and designed for boys and girls. It is up-to-the-minute in design and of the very highest quality of workmanship. Its ball-bearing wire wheels are the very latest in motor car construction, having Firestone non-skid, 20x2 clincher tires with inner tubes. It has a regular foot-pedal clutch; a capacity of two gallons of gasoline, enough to go 120 miles without refilling. The Culver Racer has a 36-inch tread and a wheel-base of 66 inches; springs are the latest cantilever type; shaft drive transmission. The machine has three speeds forward, low, medium and high, two speeds reverse.

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Rural Credit Law

The primary purpose of this act, which became a law July 17, is to promote agricultural prosperity by enabling farmers to borrow money on farm mortgage security at a reasonable rate of interest and for relatively long periods of time.

The United States shall be divided into 12 farm loan districts and a federal land bank with a subscribed capital stock of not less than $750,000, each share $5, shall be established in each district. Each Federal land bank may establish branches in its district. Within thirty days after the capital stock is offered for sale it may be purchased at par by anyone. Thereafter, the stock remaining unsold shall be bought by the Secretary of the Treasury for the United States. It is provided, however, that the government shall not receive any dividends on its stock.

The act provides for the creation of local national farm loan associations thru which the Federal land banks shall make their loans. In the event that a local loan association is not formed in any locality within a year, the Federal Farm Loan Board may authorize a Federal land bank to make loans on farm land thru approved agents. Ten or more persons who own and cultivate farm land qualified as security for a mortgage loan under the act, or who are about to own and cultivate such land, may form such an association, provided the aggregate of the loans desired by the membership is not less than $20,000. Each member must take stock in his association to an amount equivalent to 5 per cent of the amount he wishes to borrow. This stock the association holds in trust as security for the member's individual loan. The association, in turn, when applying for money from the bank, must subscribe for stock in the bank to an amount equivalent to 5 per cent of the sum it wants to obtain for its members. This stock is held in trust by the bank as security for the loans it makes thru the association. If a prospective borrower has no money with which to pay for his association stock, he may borrow the price of that stock as a part of the loan on his farm land.

Under this plan every borrower must be a stockholder in his local association, and every association a stockholder in its district bank. Each stockholder in an association is liable for the acts of that association up to twice the amount of his stock.

A member of a national farm loan association, before obtaining a loan, must first fill out an application blank supplied to the loan association by the Federal Farm Loan Board. This application blank and other necessary papers will then be referred to a loan committee of the association which must appraise the property offered as security. Such application, if approved, is then forwarded to the Federal land bank and must be investigated and reported on by a salaried appraiser of the bank before the loan is granted. This appraiser is required to investigate the solvency and character of the prospective borrower as well as the value of his land.

The Act specifically defines the purposes for which loans may be obtained. These are:

"(a) To provide for the purchase of

land for agricultural use; (b) To provide for the purchase of equipment, fertilizers and live stock necessary for the proper and reasonable operation of the mortgaged farm; the term 'equipment' to be defined by the Federal Farm Loan Board; (c) To provide buildings and for the improvement of farm lands; the term 'improvement' to be defined by the Federal Farm Loan Board; (d) To liquidate indebtedness of the owner of the land mortgaged, existing at the time of the organization of the first national farm loan association established in or for the county in which the land mortgaged is situated, or indebtedness subsequently incurred for one of the purposes mentioned in this section."

Loans may be made only on first mortgages on farm land.

Only those who own and cultivate farm land or are about to own and cultivate such land are entitled to borrow.

No one can borrow save for the purposes stated in the Act and those who after borrowing do not use the money for the purposes specified in the mortgage are liable to have their loans reduced or recalled. The secretary-treasurer of each association is required to report any diversion of borrowed money from the purposes stated in the mortgages.

No individual can borrow more than $10,000 or less than $100.

No loan may be made for more than 50 per cent of the value of the land mortgaged and 20 per cent of the value of the permanent insured improvements upon it.

The loan must run for not less than five and not more than forty years.

Every mortgage must provide for the repayment of the loan under an amortization plan by means of a fixed number of annual or semi-annual installments sufficient to meet all interest and pay off the debt by the end of the term of the loan.

No Federal land bank is permitted to charge more than 6 per cent per annum on its farm mortgage loans, and in no case shall the interest charged on farm mortgages exceed by more than one per cent the rate paid on the last issue of bonds.

For example, if the bank pays only 4 per cent on an issue of bonds, it can not charge more than 5 per cent for the next farm loans it makes.

The Federal Land Banks are specifically prohibited from charging in connection with making a loan any fees or commissions which are not authorized by the Farm Loan Board. The authorized fees need not be paid in advance but may be made part of the loan.

After a Federal land bank has loaned on first mortgage $50,000, it can obtain permission from the Farm Loan Board to issue $50,000 in farm loan bonds based on these mortgages, sell such bonds in the open market, and use the money thus obtained to lend on other mortgages.

This process of lending on mortgages and selling bonds in issues of $50,000 may be repeated until bonds to the amount of $750,000.

To make these bonds attractive to investors, the bonds, together with the mortgages upon which they are based, are exempted from Federal, State, municipal, and local taxation and are made legal investments for fiduciary and trust funds.

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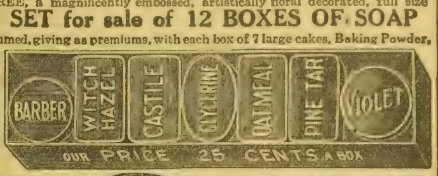

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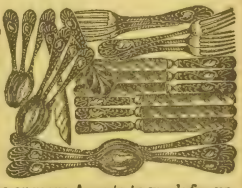

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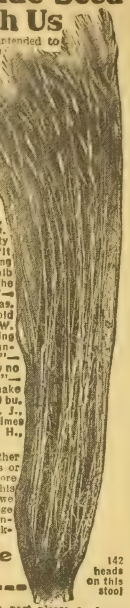

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WHY NOT GET ACQUAINTED?

By L. H. Cobb

I wonder how many boys and girls among our readers really know their nearest neighbors. No doubt you are pretty well acquainted with little Jennie Wren, with Sammy Jay, and with cheerful Robert White, and you may know a good deal about several other birds, but do you know which are your very good friends and which are not? As there are murderers, thieves, cruel and unnatural parents, and deadbeats among men and women, so there are birds that murder, steal, desert their children, and eat what others have worked for. While there are many things about our birds we do not know, there are other neighbors all around us that we know far less about, and some of these spend their lives serving us.

The other evening a little boy living next door was having great fun poking some little toads and making them jump. He had stopped when his aunt told him to, and had stepped up on the low porch, when a very large toad jumped out from under the well curb.

"Ha! the old man is coming after you for chasing his children," the aunt laughed, and the old toad hopped right up on the porch. The boy turned and ran into the house, shut the screen door and hooked it on the inside, but the toad quietly hopped on over into the corner near the kitchen door where a lot of flies were settled. You know the Bible says the "wicked flee when no man pursueth," and that was the way with that boy. But he learned a lesson he will not easily forget. He knows now that toads can "swat flies" a good deal faster than he can. Toads don't live on flies altogether, either, but they catch a lot of other insects.

I had a pet maltese cat that always brought his game and laid it at my feet to show me what he could do. One night he brought in the funniest looking "mouse" I ever saw. It had a long slim nose that looked like it would be splendid for rooting with, and the front feet had five long fingerlike toes on each foot, armed with sharp claws. The tail looked like it might have been a good long one at one time, but it had been cut off short until only a thick stub a little over an inch long was left. In other ways it looked funny for a mouse, and when I looked it up to find out what kind of a mouse it was I discovered it wasn't a mouse at all. I learned that it ate bugs, grubs, worms, even mice, if it could catch them, and wouldn't refuse to dine off its own brother or sister, or likely as not its father or mother, if it was awfully hungry and was able to kill them. Can you guess what it was? I expect I will tell you some of these days if you cannot find out without. It is a mighty good little friend to man if it is a fierce little cannibal, but it is hard to see, for it is very shy and does most of its hunting at night.

One summer evening I was walking along with my shotgun, when I saw a large bird coming along in the gathering gloom. I brought my gun to my shoulder and the bird to the ground, just as many another thoughtless boy has done. I was sorry I had hit it, for I had no wish to kill an owl, but the deed was done. I was taking a great interest in rearing chickens that year, but the rats insisted on taking heavy toll. I had a fine patch of peanuts, too, which the field mice were robbing by following in the runways of the moles or digging down into the hills from above, and you can imagine how I felt when I learned that a large part of an owl's diet consists of mice and rats.

I had killed a friend just for the fun of shooting, and I couldn't shoot it back to life again, either. Of course, I never knew how many little chicks lost their lives because I killed that owl, or how many peanuts I didn't eat that winter because of it, but I did a lot of guessing; maybe I guessed too high, maybe not high enough, but you may be sure I never shot at another owl.

Now are you sure you are not persecuting or killing a friendly little neighbor? Are you sure you know which are your friends? Many of our best friends are ugly and uninviting. Some actually repel us, and some we are afraid of, tho without cause.

BOYS! BOYS! BOYS! and GIRLS, TOO!

Get One of These Real, Gasoline Auto Racers FREE!

The only real automobile made just for boys and girls! Be the first in your neighborhood to get one of these dandy Racers. Carries two passengers. Easy and simple to operate. Make money running errands. Will go anywhere big cars can. Plenty of power and speed, yet safer than a bicycle.

Write Today! Just send your name on a postal card and I will tell you how to get one of these genuine motor cars free of cost. It won't obligate you in any way. Don't let someone else get ahead of you. Write today.

Not A Toy Or Pushmobile—But A Real, Genuine Motor Car!

Driven by 5 h.p. Engine—60 miles on one gallon of gas—3 speeds forward, one reverse—any speed up to 20 miles per hour—clutch, brakes, etc. operate just like big cars.

Address UNCLE DICK, 807 Jackson Street, Topeka, Kansas

FREE KNIFE

BOYS! We are giving this knife to every boy who will secure only 4 subscribers to Spare Moments at 25 cents each. It is one of the finest pocket knives ever made; the two blades are of the finest English steel; bolsters are German silver and linings of brass so the handle cannot rust. The handles are of a beautiful smooth finish and under one side is your own name and address as shown in illustration above. Now get busy and earn the knife as you can quickly secure the subscribers. Send for sample copies and subscription blanks to Spare Moments Pub. Co., Johnstown, Pa.

Puzzlewits

PRIZE OFFERS

$1.00 will be given for the best list of answers to this month's puzzles. A good story book for second best list. All other answers are counted, and 25 correct answers win a book. Every new puzzle when published counts 3 points to the author. Send answers before the 1st of next month. Address to Uncle George, Farm News, Springfield, Ohio.

AUGUST PUZZLES

1. Enigma

My first is in wisdom, but not in folly.
My second in Mike, but not in Polly.
My third in olive, but not in date.
My fourth in aims, but not in fate.
My fifth in snow, but not in ice.
My sixth in corn, but not in rice.
My whole of six letters, small and great
Name a man who guides our ship of state.

Fort Steele, Wyo. ANNA M. H.

2. Jumbled States

1. Hooi. 2. Odhai. 3. Blmaaa. 4. Dalfiro. 5. Kroywne. 6. Avenda. 7. Haut. 8. Neima.

North Olmsted, O. LOUISE H.

3. Numerical

Whole is a saying from Poor Richard's Almanac containing 22 letters. 5-17-21 is a number. 6-7-22-15-10 to defraud: 7-1-16-13 is to possess. 12-20-2-18 is a young girl. 3-8-19 is a bright metal. 14-4-9 is wickedness. 11 is a personal pronoun.

Beech Creek, Pa. LOIS E. C.

4 Beheadment and Addition

Behead a bird, add a letter to the remainder and find what to bake bread in.

Lewisville, O. MABEL L.

5. Magic Square

Arrange the numbers 1 to 16 inclusive in the form of a square, four numbers each way, so that when added across, down or diagonally, each row of four figures will make 34.

Columbiana, O. Buckeye Olive.

Answers to June Puzzles

1. Mayor, Major.
2. Salmon, smelt, sole, sturgeon, shad, shark, sprat, skate, surgeon, eel, grunt, pickerel, mackerel, pike, perch, carp, cod, haddock, chub, halibut, char, bass, dory.
3. Napkin.
4. Lark, cuckoo, wren, robin, canary, sparrow, pigeon, parrot.
5. Crake, rake or Drake, rake.
6. Dubuque, Oconomowoc, Albuquerque, Escanaba, Kalamazoo, Ashtabula.

June Prize Winners

First Prize: J. Horace Trumbull, Petersburg, Mich.

Second Prize: Murray Connell, Manchester, Ohio.

Honorable mention for complete lists is given to Horatio, Abscissa, Bobby, Dew, Old Fogy, Minuta, Minna A. Polis, Tyro, Sou Con, F. Armer, Aunt Jane, Flora, Jack, The Buckeye, Mary C., Hawkeye, Paul, Arrow.

Chat

Fifty-three sent answers to June puzzles. . . . New puzzles were received from twenty-one readers. . . . Uncle George will give a surprise prize for best new puzzle sent in August. . . . Every one will win a prize if answers are sent every month. . . . Uncle George thanks every one for their interest and kind words of appreciation.—Uncle George.

I Want to Tell You the Story of this Combination Tool

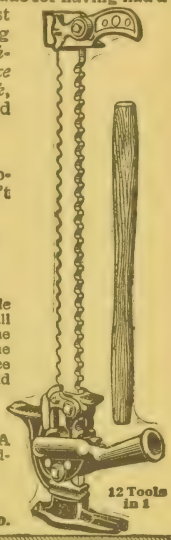
You can't see half its wonders by looking at it. That's why I want to send the tool to you. *Farmers, teamsters, auto drivers, mechanics, contractors* and *builders* are writing me letters every day expressing their gratitude for having had a chance to try this wonderful tool. "It is almost human," they say. It does almost everything—is a *single wire stretcher, a woven wire stretcher, a wire mender, a post puller, a rail fence repairer, a wheel repairer, a press, hoist, jack, vise, clamp, stump rooter, alligator wrench,* and dozens of other things.

Send Your Name To Me

Let me make you my fair and square proposition for a trial of this tool. If it doesn't amaze you I don't want your money.

MEN—Here's Your Chance to Make Money

If you want to represent me and help me show men what this tool will do, I will give you a chance. I won't tell you here how much money some of my representatives are making every day. I am afraid you wouldn't believe me. When you see and try the tool you'll understand. I am building up a whole army of money makers all over America. It's the opportunity of a lifetime and if you have any free time you ought to find out about it. Just say, "I want to know about your representative proposition." A post card will do. Address me personally.



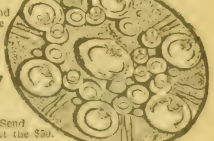
P. J. HARRAH, President
THE HARRAH MFG. CO.
32 MAIN STREET BLOOMFIELD, IND.

Madam: Will you accept a 42-piece Dinner Set from me, with your monogram on it?

1,000 of these exquisite sets of dinnerware will be given to 1,000 ladies who will help advertise our business. Send your name to-day and I will tell you how you can get them free. I guarantee you will be willing to do so on our easy plan. Besides, if you write I will send

A Valuable Reward Just For Your Name

If you are the least bit interested—in other words, if you can use a handsome set of dinner dishes decorated with your monogram and gold—send your name and I will send you a valuable $1.00 due bill—just for your name. Set has six large dinner plates, six pie plates, six fruit plates, six cups and saucers, six butter plates, cream and sugar, large meat platter, large vegetable dish, and nappy. In stores this set can probably not be duplicated for $10. If you can use this 42-piece monogramed dinner set, without cost to you, send me your name today.



Send No Money

Miss Gertrude Allerton, Desk 15, Indianapolis, Ind.

I will explain our great **$50 Gold Prize Offer** to all who write. Send today. You may get the $50.

Come to Detroit

The Automobile Center and

LEARN THE AUTOMOBILE BUSINESS

Detroit trained men get preference over all others and get jobs quickly. No other city can give what Detroit offers. Think what it means to learn in the Michigan State Auto School. Every factory knows us, endorses us, glad to get our graduates, offers them best territory in which to sell cars and start garages. Unlimited opportunities here. You're right in the middle of the great auto activity. Men are needed everywhere as testers, repair men, chauffeurs, garage men and salesmen. Splendid chance to start in business. Hundreds of our graduates are doing it.

Earn $75 to $300 a Month

We teach you to handle any auto proposition. You graduate in from eight to twelve weeks. Our **equipment is complete.** Students actually build cars from start to finish, getting regular factory training in assembling, block-testing, road testing, everything. That's our way. Special complete course in Oxy-Acetylene brazing, welding and cutting separate from regular course. All leading types of starting, lighting and ignition systems in operation. Learn to time motors, adjust carburetors, magnetos, valves and bearings quickly and accurately. Six-cylinder Lozier and 8-cylinder King are used for road instruction. We have a new Chalmers "6" chassis with overhead camshaft motor, the latest thing out. Just added Delco System as used in Buick, Hudson and Packard Twin "6."

Detroit is the Place to Learn—Start Any Time

There are 44 auto factories in Detroit, and 140 accessory and parts factories. Our students have the privilege of going thru any or all of them. We now **operate Westinghouse and Auto-Lite Service Stations.** After careful consideration the Westinghouse Electrical & Mfg. Company and the Auto-Lite Company decided that our school was the best to handle their service stations. This has added thousands of dollars worth of equipment and makes our electrical department unequaled. Students get actual experience and training in handling all kinds of electrical auto equipment and taking care of trouble. We have constantly a greater demand for our graduates than we can meet. Factories and garages are paying big salaries to men who **know** how to handle electrical equipment quickly and properly. You can't get these advantages in any other school. Detroit is the automobile center. You get practical instruction. Come to our school and learn the auto business right. School open all the year. Enter classes any time, any day. Three classes daily, morning, afternoon, evening. You can work in the factory in the day time and take course at night.

There is a great demand for Michigan State Auto School students. Garages throughout the country write us for men. Auto factories write and phone for men constantly to fill permanent places. Why not fit yourself with one of these good paying positions?

Follow the Crowd to the Michigan State Auto School. Come to Detroit

THIS IS ONE OF THE 1916 CLASSES

Factory Co-operation

We have made the biggest deal yet. Just completed arrangement with the automobile factories to put them in touch with men who intend going into business for themselves. Think of getting inside information as to best territory and where the garages will make the most money. The auto factories keep close watch—they are looking for trained men to represent them and start garages. Men who know the auto business from A to Z are in biggest demand. Come here and start right. Learn the best selling points—get the information first handed and don't wait. Jump on a train and come now. Make the big money.

Additional Building and Equipment

33,000 sq. ft. of additional floor space in our new building—thousands of dollars worth of new equipment—plenty of room for students to work. This comes with our new building at 687-89-91 Woodward Ave., which we will occupy about Aug. 15th. Our school has grown by leaps and bounds, students have come from all over the world. Men have left after graduating and started in business for themselves; others have accepted good jobs both in Detroit and over the country. Their work has proven that we trained them rightly. We are constantly adding new equipment. Our students get the best and latest things to work on. Our electrical department is thorough and complete. It is handled by one of the most competent electrical men.

Act Quickly—Now—Don't Wait

Fill in the coupon and mail it now, get full particulars, get "Auto School News" and new catalog fresh from the press. They are both **absolutely free.** Or better still jump on the train, as hundreds have done, and come to Detroit, the "Heart of the Automobile Industry" and learn right. Remember you can enter classes any time, any day. The price of our course is based on **giving full value.** Therefore we cannot give another course free. Graduates in the complete auto course are competent to handle farm tractors. Act quickly—**now. We have no branches.** Write or come direct to the school.

Money-Back Guarantee

We guarantee to qualify you in a short time for a position as chauffeur, repairman, tester, salesman, demonstrator, garage man, or automobile dealer, paying from $75.00 to $300.00 monthly or refund your money. We have constantly more requests for Detroit trained men at GOOD salaries than we can supply.

SEND THIS COUPON TODAY

Michigan State Auto School
687-89-91 Woodward Ave. 11-19 Selden Ave.
748 Auto Bldg., Detroit, Michigan, U. S. A.

Gentlemen—Send me absolutely FREE "Auto School News" and New Catalog or better still

you can expect me about .....

Name .....

Street .....

Town ..... State .....

33,000 sq. ft. of additional floor space

MICHIGAN STATE AUTO SCHOOL

The Old Reliable School *A. G. ZELLER, President*

687-89-91 Woodward Ave. 11-19 Selden Ave.

748 Auto Bldg., DETROIT, MICHIGAN, U. S. A.

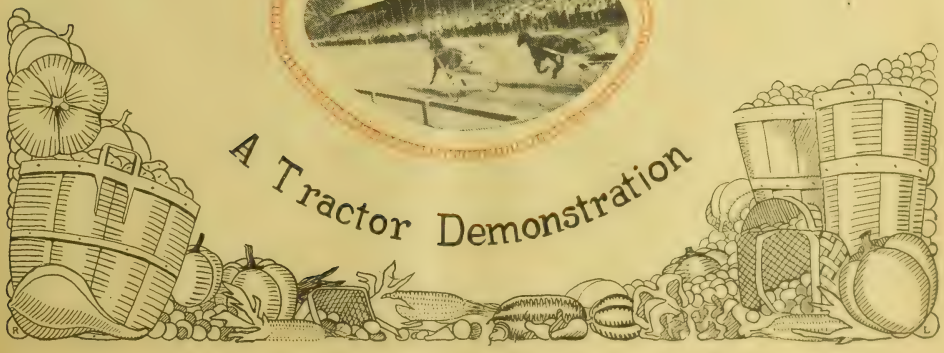
FAS ag rem

FARM NEWS

Springfield, Ohio September 1916

An Embargo on Wheat?

A Tractor Demonstration



FREE —Postpaid

This Big Sample Box of My Famous Healing Ointment

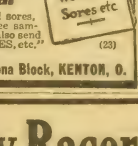
C. G. PHILLIPS
The Wool Fat Man

I want you to see for yourself what a wonderful healing preparation CORONA WOOL FAT COMPOUND is. I want to prove to you on your own horses and cows and WITHOUT A CENT OF COST, how quickly it will heal and cure Split Hoofs, Barbed Wire Cuts, Grease Heel, Galled Shoulders, Hard and Contracted Feet, Mud Fever, Corns, Scratches, Thrush, Quarter Cracks, Boils, Ulcers, Old Sores, Caked Udders and Sore and Inflamed Teats on cows.

CORONA WOOL FAT

The Wonderful Healing Compound

is unlike anything you ever tried or used. Don't confuse it with salves which contain grease and blister compounds. This remedy will penetrate the hoof of a horse which is 60% to 70% water. It is not a grease but the fatty secretions extracted from the skin and wool of the sheep. It is readily absorbed by skin and hoof, penetrates to the inflamed inner tissues and



Heals Without Leaving a Scar

CORONA does not burn or blister, grows hair over cuts and sores, causes no pain, soothes and heals surprisingly quick. The free sample will prove my claim. A postal brings it postpaid, and I'll also send you my free book "HOW TO TREAT HOOFS, WOUNDS, SORES, etc." Send for both today. Give name of your Blacksmith and Harness Dealer.

(23)

C. G. PHILLIPS, Mgr. THE CORONA MFG. CO., 14 Corona Block, KENTON, O.

Do You Want This Dandy Racer

Built Especially for Boys and Girls

Regular 5 Horse Power Gasoline Driven Motor

Looks like a big $2,000 Racing Car

Runs 60 Miles to the Gallon of Gasoline

Latest 3-Passenger Model

Given Free

The Culver Racer is a "real-for-sure" automobile, especially built and designed for boys and girls. It is up-to-the-minute in design and of the very highest quality of workmanship. Its ball-bearing wire wheels are the very latest in motor car construction, having Firestone non-skid, 20x2 clincher tires with inner tubes It has a regular foot-pedal clutch; a capacity of two gallons of gasoline, enough to go 120 miles without refilling. The Culver Racer has a 36-inch tread and a wheel-base of 66 inches; springs are the latest cantilever type; shaft drive transmission. The machine has three speeds forward, low, medium and high, two speeds reverse.

The 5 horse-power engine is air-cooled and especially designed; brakes are very substantial; battery or set spark ignition with a high grade magneto. Its weight is 300 pounds ready for the road and is capable of making a speed up to 25 miles per hour on high gear. The finish is a pretty, brilliant racing blue with black trimmings. The Culver Racer is so simple to operate that you can learn to drive it in a few minutes—then there are not a lot of complex parts that are continually getting out of order. It will carry you quickly and safely wherever you want to go. This is your chance to own a regular automobile —not only that but I will give you dozens of other beautiful presents that all boys and girls want—just the kind of presents that you have often wished for. You can't help winning if you mail the coupon now and get started at once and do as I say. You will be surprised at how very easily you can get the very things your heart desires. The many, many dandy prizes I will give you are too numerous to mention. You really can't keep from winning if you will mail the coupon now and enter the contest at once. Don't let anyone tell you that you can't get it—**you can win and you will win** if you will write me at once and do as I say. I have given away thousands of dollars worth of fine prizes in the past few months and I will continue to do so.

Write Me Quick

Don't lay down this magazine until you have clipped out and mailed the coupon. By doing this you will get full information by return mail, telling exactly how you can get this wonderful boys' and girls' auto without it costing you one cent. Mail the coupon quickly.

T. Jarvis, Auto Man, Dept. K, Springfield, Ohio

MAIL THIS COUPON TODAY

T. JARVIS, Auto Man
Dept. K, Springfield, Ohio
Dear Sir:—I want the Culver Racer. Please tell me right away how to get it free.

Name.....

P. O.....

State.....Box No.....

R. F. D. or St. No.....

With the Editor

NEW TIRES FROM OLD ONES

The main item of expense connected with owning an automobile is the tires. They will wear out and give trouble. The Colorado Tire & Leather Company, whose advertisement appears on page 3, has a plan of "half-soling" your old, wornout tires, and making them do double duty. This concern has been in business for a number of years, and evidently their work must be giving satisfaction, or they could not remain in business.

Clip the coupon from their advertisement, and get their free trial offer.

EVERY DAIRYMAN SHOULD HAVE ONE

The De Laval Separator Co., 165 Broadway, New York, are offering without cost to the readers of FARM NEWS the "De Laval Dairy Hand Book." All you have to do is to send a postal card, giving your name and address and the information they ask for on Page 7, and they will send the book to you Free. Or, better yet, use the coupon at the bottom of the advertisement on Page 7. We will appreciate it very much if, when you write, you will mention FARM NEWS.

WE DON'T WANT TO RAISE THE SUBSCRIPTION PRICE OF FARM NEWS

The price of the paper upon which FARM NEWS is printed is sure to advance within a short time. This additional cost must be met, and instead of raising the subscription price of FARM NEWS, we are going to ask our friends and subscribers to help meet this condition by sending in the subscription of a neighbor for one year at 25 cents.

This will not take much of your time, and it will insure your getting FARM NEWS for the same old price of 25 cents. Any one of a dozen or more articles we have in store for your reading this winter will more than pay for the small price we ask for a whole year's subscription. Do it today, and we will know that you are appreciating our effort to give you the best paper in the field for the price.

THE MUSIC TITLES PICTURE-GAME

The work of sorting and checking the answers in the several thousand Reply Books is much more of a task than the judges at first realized. This is work that must be carefully done.

The complete announcement will be made in Farm News just as soon as possible, and no labor or expense will be spared to do this. We appreciate the eagerness and impatience of our readers, hence we are hurrying the checking to the utmost.

In the thousands of reply books submitted to us, there are approximately three and one-half million answers to be looked over and graded. This will give our readers some idea of the stupendous task that confronts us. We have a large force of clerks constantly at work and can assure our friends that all possible speed is being exercised.

Do not write us asking whether you have won or not—no advance information can be given out. As soon as the game is decided the result will be published in Farm News, where all may read it. It is hoped this can be done in an early number.

Salesmanship in Farm Marketing

Requires a Close Study of the Selling Problem to Secure Full Value for Products

By Lester J. Meredith

SUCCESS on the farm requires talent in getting profitable prices out of buyers, just as much as ability in getting good crops out of the soil. Salesmanship is as much a part of a farmer's business equipment as are the goods he produces. It is more often a born than an acquired gift. Unfortunately it is not always—we might say, not usually—linked with distinguished ability in other lines.

Some of the most practical farmers cannot be classed as good salesmen. Some of the most prominent money-makers connected with our agriculture have never gained distinction as practical farmers. Men are comparatively scarce who have achieved the difficult two-fold success as farmers and salesmen.

Good salesmanship is an invaluable asset. If one is not so lucky as to be born with the knack of it, one ought to develop it by serious and persistent effort. It is not my purpose to tell farmers when and where to dispose of their crops and stock, but rather to show them how very important it is that they should make a close study of the selling problem, and secure full value for their products.

For instance, we grow certain crops of grain and forage on our farms which we desire to convert into money. Two courses are open to us, the grain elevator and the general market, or feeding them to live stock.

If the grain and forage is sold direct, the highest market price is demanded, and invariably we are careful to exact the last cent, and in this kind of a transaction we may be characterized as a sharp and shrewd salesman. But very often, when we decide to feed out our grain and forage on our own farms instead of selling it, our sagacity and acumen desert us entirely, and we exercise anything but salesmanship in our selection of the animals that are to convert our crops into new and different products. Why should we deliberately sell our grain and forage, not in the best market or for the best price, but to unimproved and inferior animals, that for the want of quality or adaptability cannot do a good job of manufacturing, and consequently can only pay us a very low price for the farm crops they consumed?

What process of reasoning leads us to feed a dairy cow when her milk yield, the article she has manufactured from our forage and grain she has consumed, does not pay for her board? If it is dairy products we want, why not sell the feed to such cows as will pay us a good price, and not to the kind we know in advance will never be able to do so.

It is an ever-present bargain that we are driving and we must exercise the same caution to get the last dollar there is in it, as we do when selling our grain and forage at the elevator or in the market.

Another way we suffer unnecessary loss is selling our stock badly finished. No market in the country will pay top prices for a load of poorly conditioned stock. It is astonishing to observe in the stock yards of any large city how little care is exercised in this respect. It is the last few dollars spent for extra feed used that pays the largest returns. Half-fed cattle, grass-grown hogs and ram-lambs are not wanted by the trade. This class of stock sells at a big discount, when the same animals, many possessing good blood, would bring good money if properly fitted for market. But in such uncouth shape they are a loss to the farmers who feed them.

It is the same with animal products. There is a tremendous waste of opportunity by many farmers who place inferior milk, butter, cheese and eggs on the market in untidy and uncouth condition. No good salesman thinks of putting his products on the market in untidy and dirty packages. He understands human nature sufficiently well to know that the human eye is the great buyer of his products, and that they must be put up in shape to please the fancies of the consuming public.

In another line, the question of shrinkage and waste is of great importance, when we hold them in storage rather than sell them at harvest time. Not only that, but it takes a particularly shrewd market speculator to succeed in the practice. The law of supply and demand does not always hold good. When products of one kind are out of reach of the consumers, they are quite sure to buy the next best thing in the market. A few years ago was a good example of this change in consumption. Apples were scarce and reported nearly a failure, and growers and buyers held out for an unreasonable price. There was an enormous crop of oranges and other fruit, and the result was that people took to buying these other kinds, until apples were a drug on the market. Then more apples were found than had been dreamed of, and when buyers and growers began to sell, prices went down so low that many men and firms were ruined.

The man who holds his crops beyond a price at which he can clean up a fair price is taking a risk, and a big one. He becomes a speculator, and is getting otuside of the sphere of farming. Farmers had best leave speculating to the board-of-trade fellows. They study the game all the time, and many times they imagine they have learned all the tricks, but they haven't, as a record of the bankruptcy courts will show. When a specialist, with every known method of getting the inside facts and information, cannot win, how can the plain farmer, who has had no special training, hope to succeed.

Honesty in packing and grading produce is a prime factor in securing the best market price. Farmers in the middle and eastern states could learn many lessons by a careful study of the methods put in practice by the growers of the Pacific Coast, who co-operate

(Continued on Page 22)

From the frozen north to the blazing tropics

Baker's Cocoa is known for its purity and high quality.

Walter Baker & Co. Ltd.
ESTABLISHED 1780 DORCHESTER, MASS.

Save Your Worn Tires

GET 5,000 MILES MORE service by "half-soling" them with Steel Studded Treads the same as European Motorists have been doing for over 3 years. 30,000 American Motorists have done this in the last 8 months and are saving $50.00 to $200 a year in tire expense.

5,000 Miles Without Puncture is the signed guarantee you get with every Durable Steel Studded Tread.

We Deliver Free without a cent deposit, pre pay the express and allow you to be the judge

Special Discount offered to motorists in new territory on first shipment direct from the factory. Stop throwing away your worn tires—mail the coupon below for details—be sure and put in your tire sizes.

Get 5000 More Miles

MAIL THIS COUPON
The Colorado Tire & Leather Co.
941 Tread Bldg., Denver, Colo.
1-41 Transportation Bldg., Chicago, Ill.
720-419 Woolworth Bldg., New York, N. Y.
Without obligation send me free catalog, copy of guarantee, sample and booklet "10,000 Miles on One Set of Tires."
Name .....
Address .....
My Tire Sizes are .....

A Tractor Demonstration *By George B. Crane*

THE tractor age is approaching. Those who doubt it should recall the period 10 to 15 years ago when some people were dubious about the automobile ever becoming of such tremendous commercial value. Today it is demonstrated in hundreds of ways that motor trucks are revolutionizing the drayage, farm marketing and delivery business. Likewise the farm tractor will gradually become more useful and adapted, in fact, it is now playing an important part in the business of producing crops and handling them.

Tractor demonstrations are being held in many parts of the country this season. They have resulted from the desire on the part of the manufacturer to demonstrate to the man on the land the usefulness of such a machine, and to teach him more about something with which he is not very familiar. Large attendance at these demonstrations indicates that the farmers in general are anxious to know more about tractors, and to find out just what kind would be adapted to the work of their particular farm. These tractor demonstrations have proven their worth both from the standpoint of the farmer as the buyer and the manufacturer as the seller.

It is logical to believe that to meet the ever-increasing demand for power on the farm, the tractor will step in and really make a name for itself. Most of us realize that, as in other business enterprises, we are being forced to speed up in our farm operations to meet the demands of this busy day. To do this we must have equipment ample to handle our large volume of work quickly and efficiently. Will not the tractor, with its ability to help clear land, plow deep, cover much ground, haul heavy loads and to do belt work so often needed, demand a place among the equipment of the best farms?

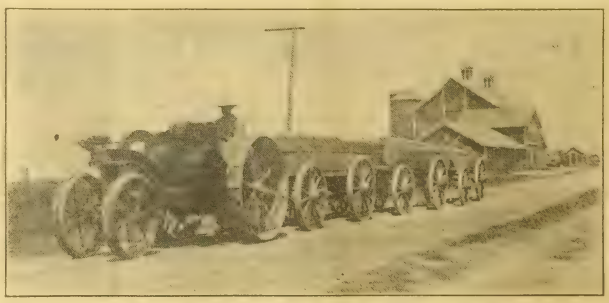
Almost endless are the uses that can be made of the tractor. The number of uses will depend upon the ability of the operator. However, almost any person can become a good operator with careful training. Most any farm machine looks complicated before we learn about them and before they are in general use. Surely we are not going to give up the tractor, saying that they are too hard to run. Here are several men owning tractors who state that they are using them to good advantage to grub and clear new land, to play, harrow, disc, plant, drill, mow, load hay, cut grain, dig potatoes, bind corn, do road work, and belt work, such as sawing wood, baling hay, threshing, filling silo and shelling corn. The mention of these various operations will show the possibilities of the tractor. We predict that many farmers will be taking advantage of them as soon as they can see this work demonstrated to their liking, and as soon as the manufacturers can make the machine, well balanced and cheap enough to be practical right on our individual farms.

We cannot go into detail in regard to the application of the tractor to all kinds of farm work, but for example, let's take the matter of breaking ground. Plowing is perhaps the hardest and largest job on the farm demanding power and requiring time, team work and horse power. The tractor, under ordinary conditions, will plow about ten acres a day. It will plow deeper than can be plowed with horses. Untiring, it can be run day and night during the busy seasons, an important feature when the season for putting in crops is short.

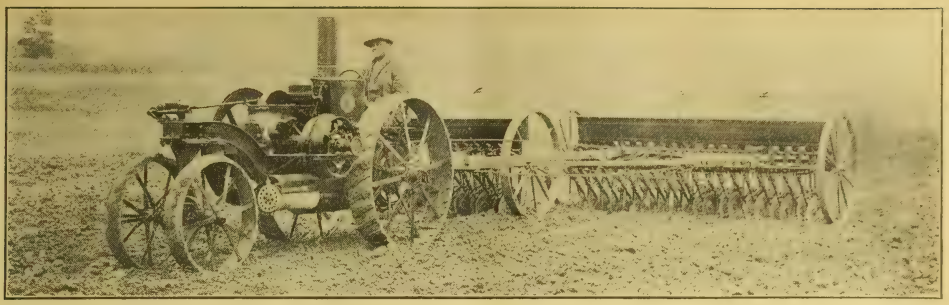
One factor always impressed upon those desiring to make the best seedbed is to plow at the right time. Variable weather requires that this be done within a short space of time. The tractor will do the work. In some cases, with the use of the large tractor, all operations of putting in a crop can be handled at the same time. That is, the ground is plowed, disced, harrowed and the seed drilled in in one operation. This is for the larger farms, which can maintain a large powerful tractor. I doubt whether the day is yet at hand when it will be best to try too many operations at once on the smaller farms.

When we figure the cost of the tractor and its operation, we usually compare it with our present plan of keeping a sufficient number of horses to run the farm. It is true that we will have to keep some teams even tho we purchase a tractor. However, it is practical to use fewer horses, which of course will cut down the feed bill. This difference will help keep up the cost of operating the engine. The argument is put forth also that the tractor needs no feeding while not working as horses do. The real value of the tractor I believe is not based altogether on its comparison with the number of horses it replaces. Its greatest advantage lies in the fact that it can do heavy work which horses cannot, it can do more work in a shorter space of time, and that it can be worked continuously for any number of hours while the horses must rest often, especially in hot weather. The tractor speeds up farming, and gives the man on the land a chance to operate both extensively and intensively.

The average amount of fuel consumed in plowing an acre of ground with a tractor in Illinois, as reported by tractor owners is slightly more than 2½ gallons, according to Farmers' Bulletin 719, entitled, "An Economic



One of the features which makes tractor ownership profitable



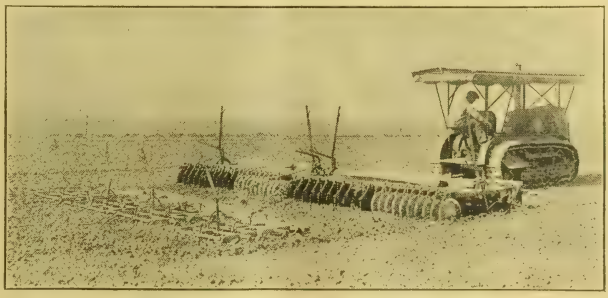
Study of the Farm Tractor in the Corn Belt." This, by the way, would be a good bulletin to obtain. The size of the tractor seems to have little influence on the amount required or on the quantity of lubricating oil used, the latter averaging about one-fifth of a gallon to the acre. The depth of plowing averaged about seven inches in these tests.

When we are convinced of the advantages of owning a tractor, the next thing is to decide which kind to buy. If the initial cost seems too great in some cases, it has been suggested that a number of farmers could go together to purchase a machine. This is a machine that lends itself to such a partnership arrangement probably better than some other kinds of farm machinery, since it can be used for so many different things. However, whatever the plan of purchase, a person should examine as many makes before purchasing as possible, satisfying himself that the machine is well balanced and capable of doing the work desired of it. It is no exception to other farm machinery in this respect.

I feel sure that many farmers will really be surprised to learn what great progress has been made in the perfection of power machinery adaptible to farm work. A tractor demonstration or state fair is the place to go to decide what kind of a machine to buy. One rule to follow is to buy a machine larger than the work you have to do, so that you will have plenty of power.

Another advantage of the tractor is brought out in the increasing shortage of the right kind of labor. With a tractor at hand that is working efficiently the farmer is not quite so dependent on hired help. A single hand on a tractor farm can handle a much larger volume of work more quickly. Shortage of labor usually comes at a time when there is the most hard work to do.

As to the future of the tractor, I believe there can be no doubt. The manner in which it will supplement **horse** power on the farm will be similar to the manner in which horses have taken the place of the oxen of old times. tractor is the implement that gives the farmer power to work his land to the limit, and it so supplements his mental and physical abilities as to make him independent of the drawbacks of the past.



This type of tractor does ideal work on plowed ground

CLOGGED DRAIN TILES

By Thomas M. Cisel

Roots of trees often cause drain tile to clog and fill with dirt, no matter how well the tile has been put in, or how much fall it may have. If roots enter the joints or push the tile out of line, there is sure to be trouble.

Trees, bushes or hardwood vines should not be permitted to grow near a line of drain tile. The deep-rooting vines are just as dangerous to the drain as the largest tree. The roots of each will hunt for water or moisture, and are sure to find the tile. The small hairlike roots enter the joints, and as they grow, will shove the joints apart and allow dirt to fall in. Within a short time one of these roots will form a root-wad in the tile that will almost close it, causing dirt to collect and stopping the drain.

These root-wads, when removed resemble a horse's tail, and it is not uncommon to find them six to eight feet long, and the full size of the opening in the drain.

The only way to prevent this is to remove all growing sprouts or trees within fifty feet of the drain. In cultivated fields the only danger is where the drain runs near or crosses a fence row. A very small sprout or vine can form a large root-wad, and if the weather is dry, and the only moisture which can be found is in the drain tile, the danger is that much greater. Shade trees will send out a large quantity of moisture-hunting roots.

When not too badly choked, they can be cleaned by digging holes down to the tile, filling the holes with salt, and putting in enough water to melt it. This should be done when the weather is dry, and little water in the drain. As the salty water flows down the drain it is taken up by the roots, which are killed, and wither up, breaking off easily. When a good rain comes, they are washed out. This affords only temporary relief. If the tile is badly clogged, there is no other way but to take them up. The salt method will last long enough to allow you to kill the tree or vine that is doing the damage.

DYNAMITE DITCHING

In the spring of 1915 I made a ditch about half a mile long thru a heavily wooded tract of swamp. The ground was thickly matted with roots of gum and poplar trees, and I could scarcely see a rod into the dense underbrush.

I used dynamite, as I could not get up a shovelful of earth where I wanted the ditch. I drew a line where the ditch edges were to be, and marked them about eight inches deep with an ax to cut and weaken the places where I wanted the dirt to move. I also cut a line down the center of the ditchway, and put in the charges of dynamite about eighteen inches deep, punching holes in the soft muck with a two-inch pole, and pushing in the charges with an old broom-handle.

My theory was that the force would reach the center line first, lift it in the middle before the edges started, thus lifting up the heavy, root-filled surface like trap doors, and turn it back, bottom side up, which it did. While the charges were placed only 18 inches deep, the explosion cleared out the ditch deeper where the charges were placed.

The ditch did not look like a spade-dug ditch, but it moved dirt, roots and all, and looked more like a big furrow, and let the water thru. It soon washed out clean. The finished ditch cost 26 cents per cubic yard of earth removed.

Community Work in Filling the Silo

The Most Efficient Work is Attained by Preserving a Permanent Neighborhood Organization

By John Underwood

SILO-FILLING is one of the rush jobs of the year. Where the silo has been in vogue for a long time, as is the case in my community, the "bunch" labor question has nicely adjusted itself. We work cooperatively. For several miles down the road, and up the side lines as well, practically every farmer has a silo. For silo filling we have gathered into groups sufficiently large to allow four teams in the field, two or three extra men to help the teamsters load in the field, a couple of men to feed the ensilage cutter, and one or two men in the silo. These same groups of men have been working together so long that everything at silo filling time moves like oiled machinery.

We have proven in a small way that farmers can co-operate and that it pays big to do so. Another feature about our silo-filling that is worth mentioning, is the fact that we have done away with the elaborate suppers that a few years ago always completed the work of the day. The housewives in this section used to vie with each other to see who could put up the best meal for the visiting farmers and farm hands. These meals always represented a considerable monetary outlay, were a needless extravagance and, worst of all, they were a needless amount of labor for the farm women. Nowadays we stop work in plenty of time so that we can go home, get the chores done in good time, and have our supper at our own tables. We have not cut out the friendly meeting around the neighbors' dining-table at the noon hour. But cutting out the supper is easy.

Most of us used to have the idea that corn for silage did not need to be particularly mature. In fact the first corn that I ever put in a silo had not reached the milk stage. It was green watery stuff, and in the winter it was so sour, and the stock showed such a dislike for it, that I was almost inclined to dub the silo a "frost." I now value maturity in the corn for the silo. For some reason or other the cows milk better on mature silage and it goes farther. The professors tell us that mature corn has much more food value, and they must be right.

We used to cut the corn with corn knives, but for the last few years two of my neighbors and myself have owned a corn-binder cooperatively, and we would not be without it. In upstanding corn it does its work with neatness and dispatch. The corn is bound into bundles convenient for handling and for feeding into the cutting machine. Even where the corn is blown down or lodged the modern binder has devices that enable it to do creditable work. Every man who has a silo should either have a corn binder himself or a share in one. In the field we plan to start the corn harvester half a day before the engine and ensilage cutter arrive, and the binder is kept going all next day. In our silo-filling circle the man on whose farm we are working supplies the horses and the driver for the binder. While we consider it advisable to be well ahead with the cutting, there is always danger of getting too much corn down. In case of wet, and consequently muddy weather, men don't like to go into the fields with their teams or to handle the muddy bundles of corn. And yet, if the corn is to be gotten into the silo in the best condition, it must be put in soon after being cut.

A cooperative effort among neighbors on Mr. Underwood's dairy farm

One little point I would note here. Occasionally, due to very unfavorable weather, it is impossible to get the corn planted until very late in the season. When silo-filling time comes around the corn has altogether too large a water content to go into the silo immediately after cutting. I would cut such corn, and allow it to dry a while before putting it into the silo.

The point in the management of the ensilage cutter on which I would lay most importance is in keeping the knives sharp. This reduces the amount of power required, and the machine is able to make a clean cut at every revolution. The knives should be sharp enough to cut the husks of the ears. When the knives begin to get dull the husks will be blown up uncut, altho the ears and stalks will be cut all right.

I mentioned that we have two men apportioned to feed the ensilage cutter. It is hard active work to feed fast and properly, too hard for one man to stand for any length of time. According to our system the two men take turn about at the feeding. While one is doing the main work the other gathers up the loose stalks and trash and feeds them into the cutter, and with the help of a boy or some kind of power to turn the grindstone keeps the knives sharp.

Another point in the cutting is to have a good powerful engine. With insufficient power the blower will be continually choking, and it is poor economy to have several teams and a big bunch of men standing idle while a clogged blower tube is being cleared or repairs are being made. The customary length for cutting the cornstalks is about half an inch, and this is about right. If cut in longer lengths the mass of corn cannot be tramped so compactly, the air is not excluded as well, and the corn will not keep so long.

As a general rule we feed the cornstalks to the ensilage cutter tassel end first. The only exception to this rule is when the men in the field make a mistake and load the wagon the wrong way. The place where we put the best man in the outfit is in the silo. One good active man can usually handle the distribution and packing of the silage properly, but he must be good and active, otherwise another man is put in to help handle this end of the filling. We have a distributor fixed at the end of the blower tube. With this distributor the silage can be directed to any part of the silo. With the best distributor, however, there is a tendency for the heavier portions of the corn to pile up together, while the lighter portions are blown to one side.

Were this corn not forked over and mixed properly the silage would be of uneven quality and would settle unevenly.

In our circle the corn of each man is all cut and put in the silo at one operation. We never go to the same farm twice in the season. As all readers of Farm News who have silos know, however, the silage will settle several feet after the first filling, and that much storage capacity is wasted. Where one has twin silos this difficulty may be overcome to a certain extent by shifting the blower back to the first silo after the second one has been filled. The majority of farmers however have only one silo, and a good way to get around the difficulty is to build a wooden top on the silo, letting it extend about six feet above the top of the silo. Any cheap material can be used in constructing this top, and it is unnecessary to make any attempt to have it air tight. Something to hold the corn till it settles is all that is wanted. The corn is filled in right to the top of the superstructure, and in a few days has settled down within the bounds of the silo. To prevent the surface of the silage from decaying, I soak the corn with a thick solution of common salt and water. Following this method there is practically no decay. The main point I would emphasize about our silo-filling plans is the cooperative methods of supplying the labor. It is best not to change around among different neighbors each year. By working in groups year after year the work will go much more smoothly than would otherwise be the case.

STRENGTHENING THE DAIRY BULL

The dairy bull should be compelled to hustle for himself quite a little. I am not an advocate of keeping him in a warm stable, tied up in a stall, or running loose in a small box-stall. I think he should be kept away from the cow barn, in an outdoor stall or shed by himself, with a small yard to run in. I would have this shed open, at least I would have the door open, so that he could pass in and out when he pleased.

There can be no good reason why the bull should be protected against the weather, or why he should be kept in a warm temperature. He ought to be kept in such a way that he is compelled to take some exercise, and I know of no better way than to let him have an open stall out of doors, where he is compelled to take a little exercise to be comfortable. He may consume a little more feed during the year, but I am sure he will be more vigorous and healthy, and his period of usefulness will be longer than where he is kept in the stable. He will also be more contented.

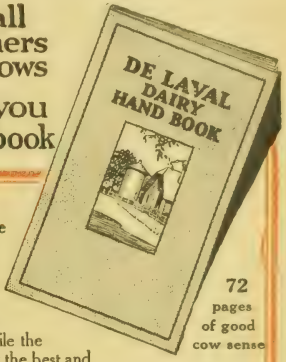
It is not necessary to have a tight board fence around the yard that he runs in. A good strong woven wire fence will enable him to see what is going on, so that he will be better satisfied, and will not be as apt to get ugly and vicious as when kept behind a tight board fence, where he can see nothing. Of course, he must be well fed, must be watered regularly, and his stall kept in a clean condition, but I am convinced from actual experience, that he needs the outdoor exercise. He needs a good deal more exercise than the cow. The cow gets exercise in giving milk, but the dairy bull must take some physical exercise, and he will be stronger and better, and will live longer and do better service if he is allowed to hustle for himself a little, and is not given as much pampering care as a great many people put upon their bulls.

There is no doubt that if a bull could be made to work a tread power, or do some physical work every single day, it would be better for him, but this is almost impossible on a great many farms. In fact if a man had a yoke of bulls, so that he could draw manure with them, plow with them, or otherwise use them to some advantage, it would be one of the best things that could happen to the bulls. But this is not always practicable. It is practical, however, to have the bull shed away from the barn, and a yard for the animal to run in. He will not need as much attention as when kept in a stall, and he will be much better off for this usage.

No man is any worse for feeling that he could lay down his life for his home, his country or his God.

FREE to all owners of cows

If you keep cows you ought to write for this book



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"The Farm that Won't Wear Out"—shows that the farm where cows are kept, and the fertility returned to the soil, improves instead of deteriorates.

"The Care of Cream on the Farm"—quality is as important as quantity. It costs little and brings big returns.

"Silos and Silage"—one of the best chapters in the book. Full of silage facts that every farmer ought to know.

Then there are splendid articles on "Alfalfa," "Ventilation of Dairy Barns," "Breeds of Dairy Cattle," "Improving the Herd with a Good Bull," "Care of Freshening Cows," "How to Test Cows," etc. Numerous dairy rations, suitable for various sections of the country, are given, and various milk and dairy tables as well as tables of weights and measures, silo capacities, etc. that every farmer has occasion, at some time or other, to refer to.

Thousands of dollars have been spent in the preparation of this book, and if you keep cows you certainly ought to write for a copy and read it from cover to cover. The book is absolutely free. Just fill out the coupon or send the information requested on a post card, mentioning this paper.

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Geese a Profitable Side Line

Demand Exceeds Supply Usually, and the Prices Leave a Satisfactory Margin of Profit

By L. A. Reary

GEESE as a sideline are a profitable branch of the poultry industry, and for the past ten years the demand has been far greater than the supply. Farmers and poultrymen are awakening to the fact that this hardy and prolific bird is a money-maker, and is quite easy to raise.

There are seven standard varieties of geese, their popularity ranging in the following order: Toulouse, Embden, white and brown Chinese, African, Canada Wild and Egyptian ornamental. The four first named are most extensively bred in the United States. The Canada goose is a direct descendant of the common wild goose, and is raised mostly by sportsmen and clubmen, who use them as decoys. The color is gray, white and blue, the gray predominating and they weigh about ten pounds when mature.

The Egyptian is merely an ornamental bird, and is bred mostly for display in the show-room, owing to its beautiful plumage. The African is a very prolific bird, matures quickly, but does not grow as large as the Toulouse or Embden. The African is known by a large knob at the base of the bill.

laid from ten to fifteen eggs. They usually bury their eggs in the litter on the floor of the pen or house. After the first clutch of eggs is laid they will want to sit, but they can be easily broken up, and made to lay one or two more clutches of eggs if they are confined in a coop for several days away from their mates and other poultry. Some breeders secure three or more clutches of eggs by this method. Not more than three or four geese should be mated to one gander.

Hens make the best mothers to hatch and raise goslings, altho the geese make fine mothers. I put from seven to nine eggs under the hen, depending on her size, and as it takes from thirty to thirty-three days to incubate goose eggs, it is advisable to get a large fat hen. After the goslings are hatched, leave them in the nest until they are thoroly dry. During the incubation period it is advisable to wet the eggs occasionally with lukewarm water, unless the nest is on the ground.

The little goslings should be placed in a dry coop with the mother, and a pen of boards or wire netting should surround the coop to prevent the goslings from straying away before they

Turkeys are valuable on any farm, as they keep down some of the most damaging predatory insects, besides bringing a very satisfactory price

The white and brown Chinese originated in China. They also have a knob at the base of the bill, but have much longer necks than the other breeds. They are very noisy, and keep up a continuous "honking." Their weight will average about twelve pounds.

The Toulouse and Embden are really the leading varieties in this country. It is difficult to determine which is better between these two, as the only point of material difference is color, and that is largely a matter of taste. They will weigh from fifteen to twenty pounds each for adults. The Toulouse are blueish-gray in color, the blue predominating. The Embden are pure white. They have a large frame and stately carriage, and are certainly a beautiful bird.

Geese usually begin laying about March 15, in northern latitudes, and will lay every other day until they have

become acquainted with their surroundings. Place the coop in a shady place, for the direct rays of the sun is injurious to young goslings.

Limberneck may be prevented by greasing their heads with a little lard or vaseline. The first food should be bread soaked in milk and squeezed dry for the first day or two. Then for the first week bran, shorts, cornmeal, etc., may be feed in mash form. After that cracked corn with a liberal supply of grass or other green stuff at all times. When they are about two weeks old they may be taken from the mother, and if there is plenty of grass, and pure water to drink, very little other food is required.

A place to swim isn't at all necessary at any period of their growth, altho it is better for the adult geese to have access to a pond or creek, as their eggs appear to be more fertile under such

conditions. The young goslings should not be exposed to inclement weather, as dampness, rain and hot sun are fatal to them while young.

The best time to market goslings is from September first to Thanksgiving, as the Jewish festivals begin about that time, and they consume great quantities of geese. This is the best market, for the demand is then the greatest.

After the breeding pens are mated up it is best to keep them separate, as the ganders fight viciously when allowed to run together. The feathers are another source of income. A goose usually nets about a pound of feathers during the season. They can be plucked every six or seven weeks during the summer and early fall. The feathers are ripe when they begin to loosen and fall out, and when there is no blood in the end of the quills when pulled out.

A PRACTICAL CHICKEN HOUSE

I put in eight posts three feet apart, leaving five feet above the ground, for the north wall. I then put a corresponding number of posts twelve feet south of the back wall line, leaving them eight feet high. I put in three posts on each side, leaving sufficient height to make the proper slope to the back.

I used 2x6 inch rafters, and the posts being planted in the ground, no sills were needed. I bought a lot of boxes at the store, took them apart and covered the entire frame. I then painted it inside and out with coal-tar.

After the outside was nearly dry, I took some old sacks, which I had saved when getting bran, shorts, etc., opened them out, and pressed them tightly onto the coal-tar on the outside, all over the roof and sides. I then gave them another coat of coal-tar and another covering of sacks, afterward painting the whole outside again with tar.

I now have a wind, rain and vermin proof home for my poultry. The front I have covered with curtains in four sections, made of old sacks, fastened on rollers, so I can open one or all of them, as the weather permits. My run or feed yard is the same size as the house, and with wire screen on the south. I also have a canvas cover made from old sacks, on a pole, which can be let down in bad weather, making them a dry feeding run.—E. R. Holsinger.

PREVENTION AND CONTROL OF BLACKHEAD IN TURKEYS

The contagious nature of blackhead makes it necessary to employ prompt measures of isolation and segregation. Sick birds contaminate houses and runways, and the immediate removal of healthy hens and poults to clean quarters is essential. Affected birds should be killed and cremated immediately, as they continue to intensify the existing infection. It is important that the healthy birds do not remain in the same house or come in contact with fowls of any age that have access to infected premises. A common mistake in the control of infectious diseases of poultry and other farm animals is the removal of the sick to isolated quarters, allowing the healthy animals to remain exposed to the infected premises.

The houses, roosting places, and runways should be thoroly cleansed. First remove all litter from the coops and houses and spray with lime water containing 5 per cent carbolic acid. The runways should be raked up and cleansed by scattering slaked lime on the ground surface. All litter, straw and refuse accumulated from cleaning should be burned

On farms where poultry ranges at large, thoroly cleaned and disinfected quarters should be provided for the healthy flocks to insure against possible existing infection. Soft feeds should be fed, excluding corn as a part of the ration. In the chronic or slow form of the disease, sour milk should be supplied in liberal amounts. It must be given in the early stages of the disease to the infected as well as exposed birds, as otherwise it may not always exert a beneficial effect. When sour milk is not available it is advisable to provide a solution of muriatic acid in the drinking water. Various amounts of this acid have been used, but the proportion of one teaspoonful to one quart of water has proven unharmful, and has been followed by the most favorable results. A porcelain or earthen container should be provided for this purpose. As before stated, chickens are not often affected, yet in the virulent form the disease may spread to chickens, resulting fatally. To avoid possible loss in fowls they must be protected from exposure and subsequent infection.

Don't waste time scrubbing a sink with scouring powder as kerosene will do the cleaning in half the time and not hurt the enamel.

Cranberry jelly is a good appetizer.

THE POSTMASTER

Shook Off Coffee ond Got Well

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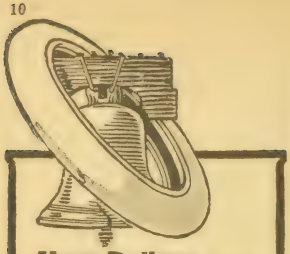

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Cover Crop for the Orchard

And Distribution of Fruit, Which is Becoming More of a Problem Each Year

By Alvah H. Pulver

THE successful management of an orchard calls for a cover crop in its first years, when the trees cannot be expected to be dividend-producers. This cover crop can be such as is regularly so-called, or one interplanted, as cabbage, potatoes and many other varieties of produce. The development of fruit lands has reached such a status in recent years that it has become generally accepted that cover crops are worth every bit of attention they have thus far received.

A cover crop may contribute to the welfare of an orchard in a number of ways. It directly improves the physical condition of the land, prevents hard soil from cementing or puddling, holds the rains and snows until they have time to soak into the land, and drys out land in the spring, making early tillage possible. Sometimes the crop serves as a protection from a frost; it catches and holds some of the leaking nitrates, of which the roots of trees are in little need late in the season. It also adds humus to the soil, renders plantfoods available, and appropriates nitrogen, if it is a leguminous crop.

The plants commonly used for cover crops fall into two groups, leguminous, or nitrogen bearing, and non-leguminous. The former group comprises red clover, crimson clover, field peas, vetch, cowpeas and others. The non-leguminous consists of rye, oats, buckwheat, millet, rape, turnips and various others. Sometimes the growth of weeds, or other more or less spontaneous growth, is encouraged after the seasonal cultivation is ended, as a means of obtaining a cheap supply of vegetable matter for the soil.

Red clover is more commonly used in apple orchards than in peach orchards, especially when it is intended to omit tillage for a season.

Vetch is apparently being used more and more as an orchard cover crop in the northern fruit districts. Crimson clover is especially satisfactory on some of the lighter soils.

Probably rye is the most widely used non-leguminous plant. It can be sown late in the season, and it lives over winter and starts into growth early the next spring. All of these points are important considerations in many instances. But oats in combination with vetch have been especially satisfactory in some cases, and German millet has been shown to be almost an ideal non-leguminous cover crop under some conditions.

In starting the cover crop, the usual practice is to sow the seed when the orchard is given its last cultivation for the season, either in July or August, the exact time being regulated by local conditions. Sometimes cowpeas are planted in drills in June, and tillage continued with a small cultivator. Where rye is used it is commonly put in toward the close of the growing season.

Whenever a cover crop is used in a peach orchard, it should pre-suppose the plowing of the orchard as early in the spring as practicable, unless the growth that is on the ground can be worked into the soil more effectively and conveniently by the use of a disk or cutaway harrow. However, if there is an abundance of moisture in the soil, the turning under of the cover crop is delayed in many cases until after it has made considerable growth in the spring, in order to obtain as large a quantity of vegetable matter to be worked into the soil as is possible.

A Wealthy apple orchard, with a fine inter-cropping of cabbage

The use of cover crops is sometimes limited in particular seasons by lack of moisture. If there is a protracted drouth at the time the seed should be put in, and the trees are suffering therefrom, it may be unwise to make a further demand upon the moisture in the soil by sowing a cover crop, even tho the soil may be known to lack humus. Under such conditions the cover crop might do more harm than good.

The conditions which prevail in certain districts of generally low precipita-

tion, in which peaches are being grown successfully, are analagous to the above in some respects. In those districts continuous clean tillage with the return of practically no vegetable matter to the soil, is bringing the ground into poor physical condition, with the usual attending difficulties incident thereto. Stable manure as a source of humus is not to be had in sufficient quantity to be of any real value, and the limited moisture supply is not sufficient to maintain the peach trees and grow a cover crop at the same time. This situation, as it exists in some districts, presents serious problems. The growers are beginning to realize its import.

Aside from the usefulness of cover crops in maintaining the fertility of the soil, they may have important functions in other respects under some conditions. Where the topography or the character of the soil is such as to render it subject to washing, a cover crop which survives the winter will often prevent, or materially lessen, the erosion that would otherwise occur. If good tillage and the wise use of cover crops fail to produce good results in a peach orchard that is well situated, the use of commercial fertilizers may then logically receive consideration.

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As the time is about at hand when the bulk of the season's fruit begins to move from grower thru dealer to the markets and the consumer, I would like to add a few paragraphs on the distribution of fruits, which seems to be more of a problem each year. As a problem of handling the products of the farm, the railroad companies are each year confronted with a vast mass of freight and express bound for every direction. The agricultural area has extended, until now it reaches into every section of the country. Extensive commerce in food products has called into existence many special agencies in that large class known as middlemen. There are both good and bad dealers of this class. Of late there has been a good deal of talk against those engaged in food distribution. Production has increased rapidly, and as a natural consequence improved methods and facilities for handling the increase have become necessary. Keeping pace with the increased production has come the demand from consumers for more efficient service. But any readjustment of present market and distributing practices must be based upon the fact that some agency must continue to perform the services of the present day middleman.

Handling goods thru a large market is a very complex process. The problems differ from those of production, and usually one man or firm cannot handle both production and distribution and succeed at both. Machinery for efficient distribution becomes specially necessary when perishable goods are to be handled.

As soon as a grower or shipper starts a car of fruit toward the market, he should notify the consignee. This one important detail is often omitted by shippers. Little thought is given to the fact that the consignee, especially if a large firm, may have other large shipments en route or in hand. Keeping records of all these shipments is a great burden on a distributing concern, and lack of proper notification often causes needless loss and costly delay.

A grower who will have one or more cars of produce to market should get in touch with the concern to which he expects to ship his goods before they are ready to move. He can in this way sometimes secure valuable suggestions as to packing, loading or routing the shipment, and this will pave the way to a better understanding of terms and the ways in which the produce may be handled rapidly and efficiently. In cases where quick work is necessary, a prepaid telegram should be sent when the shipment is made, or when there is any likelihood that the car may reach its destination before a letter.

In the letter, which should always follow, the name of the commodity should always be given, date of shipment, whether shipped by freight or express, route, car number and initial, packages, size and type of packages, variety and grade.

The right of inspection is assured with perishable goods, as it would be very unbusinesslike to purchase or accept a car of perishables without a thoro inspection, and in all cases where the shipper has no market representative, he should arrange to have inspection made by disinterested inspectors, in case the shipment is rejected.

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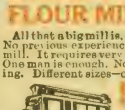

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Volume XXXVI **SEPTEMBER 1916** **Number 9**

Men Farm News Readers Should Know

Introducing Norval A. Hawkins and G. I. Christie

"NORVAL" is his Christian name. It fits, but does not describe the man. I think of him always as Radium Hawkins.

Mr. Edward H. Doyle, then State Banking Commissioner, told me first about Hawkins, in January of this year, as I sat beside his desk in his Detroit office.

"Mr. Jones," he said in his intensely earnest way, "I want you to meet the most wonderful man in Michigan."

"Who is he? I asked.

"Norval Hawkins," Mr. Doyle replied. "He's a marvel! I never knew anybody like him in all my life. I'm going to ask him to come down here to see you. You must meet him, sure."

I left Mr. Doyle's office tingling with eagerness for the hour of my appointment next day. I scarcely could comprehend that, in an off-hand way, this busy genius described to me, had consented, without demur, to come down town, four miles from his office, to meet a stranger who had not even the claim on his interest of money enough to buy an automobile.

Norval A. Hawkins, Sales-Manager Ford Motor Co., whose efforts make the sale of 1,000 Fords a day possible

G. I. Christie, Superintendent of Agricultural Extension Department, Purdue University, Lafayette, Ind.

It was one-half minute to eleven the next morning when I entered the anteroom of Mr. Doyle's suite in the Majestic Building. Neither Mr. Doyle nor Mr. Hawkins was there. I plumed myself just a little on my own promptness. An elevator stopped at the landing just outside the office. A tall, slender, clean shaven man with graying hair stepped briskly out. Then a stocky figure came from the opposite direction round the corner of the corridor. It was Mr. Doyle. He met the other man at the door.

"Hello, Norval!" he greeted as they shook hands. They entered the office together at precisely eleven o'clock. "Mr. Jones, this is Mr. Hawkins."

I looked into the straightest, most fearless blue eyes I ever confronted. I saw the brightest, friendliest smile that has come my way from a stranger in the forty-one years of my life. My hand was gripped hard and released an instant afterward by springy, tense fingers. A clear, vibrant voice spoke swiftly, yet with the distinct enunciation of blended musical notes.

Norval Hawkins is a great salesman—but he is a greater man. He is the first because he is the second.

Like radium, he emanates energy inexhaustibly. His nature is almost unbelievably intense; his mind a treasury of priceless ideas that he scatters prodigally, because with all the unstinted spending of his thoughts, he constantly grows richer in genius. He lives aflame, but by a miracle is not consumed in his own fire.

His extraordinary brain machine makes him the master salesman. But his great heart pumps warm, red blood into that marvelous mechanism of business-thinking efficiency. Norval Hawkins seems to concentrate all the resources and power of his finely adjusted, swift mind on Ford motor cars when he is working at the big job of selling a thousand automobiles a day. But never, not for an instant of his busy life, does he stop loving every fellow creature in the world. His hand shoots out, straight from the shoulder, to grip palms with his brother man.

When he grasped my hand in friendly parting and his marvelously sweet smile flashed good-bye, I forgot that Radium Hawkins was the master salesman that ties shipping tags on a thousand automobiles a day. I remembered only what his old friend Edward H. Doyle had said about him—and I added an emphasis of my own.

"He is the most wonderful man in Michigan." God bless him!

G. I. CHRISTIE, Superintendent of the Department of Agricultural Extension, Purdue University, and State Leader of County Agents, was born on a farm near Winchester, Dundas County, Ontario, Canada. His father, David Christie, is of Scotch descent, and has been a well-known breeder of Clydesdale and Shire horses.

Professor Christie was educated in the public schools of Winchester, and worked on his father's farm until seventeen years of ago, when he entered the Ontario Agricultural College at Guelph. He graduated with honors from this institution in 1902. During his college course he entered a livestock judging contest where he won many premiums. He was also a member of the livestock judging team for Ontario at the International Livestock Exposition, December, 1901. In this contest he carried off honors. In September, 1902, he entered the Iowa State College, and was graduated June, 1903. He was then taken into the Department of

Agronomy with Professors Holden and Stevenson, and assisted in this work until July, 1905, when he went to Purdue University as assistant in the experimental work of the Soils and Crops Department.

The first work undertaken by the Extension Department was along the lines of more and better corn. "Corn Specials" were run over the different railway lines in the state, and everywhere hundreds and thousands of farmers heard the gospel of better methods. The advice was heeded, and today Indiana and her corn growers are unexcelled in the world—the average yield of corn in the state has increased six bushels per acre during the last ten years.

In 1911 the state legislature created the Department of Agricultural Extension, co-ordinate in rank with the Experiment Station and School of Agriculture of Purdue University. This greatly enlarged the income and activities of the Department, until it is the largest department in the University in the scope of its work, number of workers on its staff and the number of people reached. Its activities now include corn, wheat, soils, fruit, poultry and dairy special trains, district short courses, county fair exhibits, field demonstration plats, silo demonstrations, farm management demonstrations, seed inspection, county agents, boys' and girls' clubs, farmers' and teachers' institutes, in fact everything pertaining to the betterment of rural-life conditions. That this Department is serving the state in a large way is shown by the fact that more than a million people were reached by the various lines of work in 1915.

Professor Christie's services as secretary of the Indiana Corn Growers' Association must not be overlooked. A large part of the remarkable growth and influence of that association during the past ten years must be attributed to his efforts.

As a member of the Indiana Centennial Exposition he will have a large responsibility for the agricultural exhibits, which will show the agricultural development of the state for the past 100 years. He was Superintendent of the Indiana Agricultural Exhibit at the Panama-Pacific Exposition, and had complete charge of the installation and administration of this exhibit.

Bulletin No. 255, United States Department of Agriculture, on "Educational Contests" was prepared by Professor Christie.

Professor Christie is a member of the National Educational Association, Secretary-Treasurer of the Indiana Corn Growers' Association, President of the National Seed Analysts' Association, and a member of the Association for the Promotion of Agricultural Teaching.

Altho Professor Christie is quite a young man, scarcely more than thirty-five years of age, he has made for himself a brilliant record in the development of the grricultural resources, not only of Indiana, but of the entire United States, as well.

Note: The above sketches of two men prominent in agricultural development and merchandising is the beginning of a series which will continue in FARM NEWS. They are men who are dealing constantly with farmers, and we want to show you how they look.

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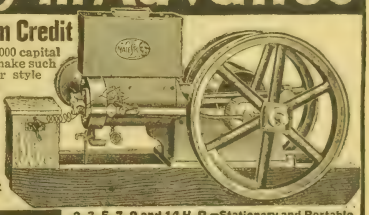

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Generous Feeding a Necessity

The Cow as a Milk-Giving Machine Must Have the Material For Giving a Profitable Return

By John Underwood

AS THE only returns that cows can give is that yielded from the quantity of food consumed, more than is needed to keep up the functions of life, pinched feeding means contracted returns in the production of milk and butterfat. A herd may contain cows capable of heavy production, but if fed sparingly the owner has little chance of knowing their capabilities, and is therefore deprived of the profits that may be secured by making the most of them by generous feeding.

Insufficient feeding cannot lead to success, but always in the opposite direction. There are some sections of the country where the cows are generously fed, and in those sections it will be noticed that the dairymen are prosperous, blessed with comfortable homes and other desirable features. But unfortunately the feeding on most farms is too sparingly done. Of course, dry cows need not be given a heavy ration, so long as they are thriving moderately well, but anything short of a full ration for cows giving milk will assuredly yield correspondingly unprofitable returns in milk and butterfat.

I am speaking from practical experience of many years in feeding cows. The feeding of a full ration does not constitute the lavish use of food, but rather the feeding of each animal, or group of animals, so as to secure without waste the maximum return. To get full returns without waste requires not only a knowledge of food values, but a keen perception of the needs of the cows, as indicated by their daily movements. Where one cow will cease to return a profit from a grain ration above six pounds per day, to another, of perhaps equal size, it will pay well to feed even as high as 15 pounds of a mixed grain ration.

The predominant desire should be not to save feed, but to make the utmost use of the cows to turn as much as possible of the feed into milk and butterfat. One great mistake many make is in keeping too many cows of a poor grade for the food supply, together with a refusal to purchase supplementary feed. The result is not only poor immediate returns from the cows, but poor returns from the land that needs feeding, for while the cows may produce plenty of manure, the manure does not contain enough of the essential elements to properly build up and maintain the fertility of the soil, on account of not being enough nitrogenous feeds used. Under such conditions it would be wise to dispose of some of the poorest individuals, and take the money obtained and buy supplementary feeds, such as oilmeal, bran, alfalfa, etc., with which to feed the others better.

One has only to become acquainted with the customs of thoroly successful dairymen to learn that generous feeding of good cows pays. In feeding cows there could be little liability of underfeeding if it were constantly borne in mind that the cow is but a machine for converting crude products, in the form of field crops, into milk and butterfat, that this machine requires both labor and food to simply keep going, and that the profits from feeding have to be produced from the food consumed, digested and assimilated over and above the requirements for maintenance purposes alone.

I refer only to animals which will return a profit by generous feeding, but which are receiving hardly more than a maintenance ration. That class of animal which will consume great quantities of feed without proving profitable, deserves no place on any farm. The sooner they are disposed of the better off will their owner be. I know of no subject that has greater demands on the attention of dairymen than that of generous feeding of the cows that will respond readily, and thus bring liberal returns above the cost of food consumed.

Part of the Talfurrias Jerseys at La Mota, their home in southern Texas. 3832 head were tested for tuberculosis with only one reaction, and that one a grade from another part of the state

LEGUMES AND COVER CROPS

At Riverside Farm, legumes and cover crops play an important part in our system of crop rotation. In order to secure good crops of corn and small grain we find it advantageous to keep our fields occupied by growing crops as many months during the year as practicable. There are times when the ground must be left bare, but these periods should be as short as possible. More or less of the soil nitrogen is being changed into a soluble form during the spring and autumn months, and for this reason a crop of some sort should be employed to arrest and hold this supply of available nitrogen. After a regular crop is made, nitrogen still continues to be made soluble, and unless the ground is full of roots of some growing crop to take up a part of it, this valuable element will be leached out as soon as there is rainfall enough to cause underground drainage.

If we sow wheat or rye in the fall, the roots will fill the surface soil, and take up for use in the growth of the plants all the soluble nitrogen which otherwise would be lost. The nitrogen, after being built into plants, is available for future use as soon as the cover crop is turned under and decays. In addition to saving soluble nitrogen, the cover crop furnishes an abundant supply of humus to improve the physical condition of the soil.

If legumes are used for cover crops, and are cut for hay, the stubble and roots increase the quantity of soil residue, and when the hay is fed, and the resulting manure returned to the soil, little of the humus and fertilizing value of the crop is lost. Not only is the soluble nitrogen retained and the supply of humus increased, but the growing plants prevent the washing of soil particles and mineral plantfoods. This is especially noticeable on two of our upland fields; and while it is sometimes practicable to allow the lowlands to stand unoccupied during the fall and spring months, we seldom allow the field to stand bare during the winter and spring to wash away.

In our rotation of corn, wheat, clover and timothy, we keep our soil occupied most of the time, and simplify the problem to a minimum. Under this system of crop growing the fields are all covered by some crop nearly all of the year. In general farming the aim should be to keep the ground occupied by a growing crop as many months of the year as possible, without going to any great additional expense to fit the soil and seed these crops. The corn, wheat, clover and timothy crop rotation is nearly ideal for this purpose. By leaving the land in grass two years we have a thick, heavy sod to plow under in preparing for the corn crop.

Many farmers who have read about the benefits from cover crops start in and plow under these crops faster than the soil can make good use of them. The result is they soon have the soil choked, the green organisms decay slowly, the soil becomes sour, a large mass of inert plantfood forms a thick layer that cuts off capillary moisture attraction from below, and the crops suffer as a result. We find that better results follow the practice of plowing under smaller quantities of humus-making materials frequently, and not plowing it under too deeply.

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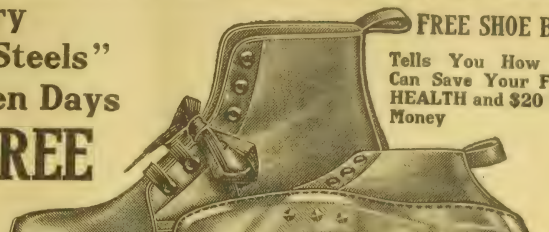

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An Embargo On Wheat?

EDITOR'S NOTE—There has been some agitation, just how far-reaching we do not know, to establish an embargo on the exportation of wheat, with the purpose of keeping the price down. We are giving here the views of a large manufacturer of agricultural implements and the traffic manager of one of our large railroad systems. Mr. Houghton's article deals with transportation problems, and is given to show our readers some of the conditions with which transportation agencies at times have to contend.

THE FARMERS OPPORTUNITY

By Manson Campbell, Pres't the Manson Campbell Co.

I have noted with great misgiving, the agitation for an embargo on the American farmer's wheat.

How can such an act be thought of? Must our industrious, honorable American farmers always come out at the small end of the horn? Must his hard persistent work never bear anything but the smallest margin of profit?

Always—ever since my introduction to the farmer and his work, years ago—I have been his champion. His problems have been my problems. I have studied his soil. I have studied his fertilizing—his seed.

Always it has been my pleasure as well as my business to help the American farmer increase his crops and his profits.

And my thousands of farmer friends will attest that I have made good.

But this embargo business is sadly out of my line. I cannot devise any machine that will stop it. All I can do is to voice my protest against any such step that is unfair to the farmer.

On general principles I am the sworn enemy of every act that will curtail the farmer's market for wheat or any other product.

When the time comes that the American farmer cannot be trusted to look out for his own country, then I might relent. But if my experience with thousands of farmers doesn't play me false, we can trust the patriotism of the American farmer to guide him right.

No, I cannot see the justice or reason for an embargo on wheat. I can see only gravest injury to the American farmer and to agricultural interests.

I would like my many farmer friends and every other American farmer to know that Manson Campbell is with them heart and soul—for a free and unrestricted market. That I believe in their honesty and that they would not wilfully do anything that would work hardship on the American people for a little extra profit. Never.

I would like to join hands with the men of your good paper in a protest against this embargo. With your wide influence you could reach thousands of farmers and get their side of the story.

What can we do to protect the interest of our mutual friends on this occasion?

EMBARGO ON WHEAT

By F. B. Houghton, Freight Traffic Manager, A., T. & S. F. Ry. System

According to Webster, an embargo is "a governmental prohibition of the departure of ships from its ports." The refusal to accept and transport goods of commerce should only be exercised in cases of great emergency. Contrary to the opinion of some people, railroads do not refuse business without a good reason. Obviously the railroads suffer; their income stops or is accordingly curtailed.

At times a carrier will have an unusual tonnage of one commodity, or at one place, resulting in terminal congestion and undue delay to equipment badly needed at other points and by other shippers. In rare cases an embargo is necessary against the loading of some particular commodity for a short period. Embargoes necessarily follow the breaking of the line by floods and other calamities.

Storage at our ports for grain intended for export is limited, altho I believe facilities are ample under conditions around normal. For instance, the city of Galveston is provided with elevator space sufficient to handle all the grain exported thru all gulf ports, and likewise the city of New Orleans is able to take care of all such tonnage, provided, of course, ships and cars meet within a reasonable time. Notwithstanding this favorable situation, embargoes against grain for export via gulf ports have from time to time been necessary in seasons past on account of lack of ships. This company has had as high as 4,000 cars on hand and delayed for a considerable period. I think it was our plain duty to other shippers to refuse further loading of grain for export until a substantial portion of the cars, depending upon the circumstances, were released and placed in other channels of trade.

The act to regulate commerce provides that we must furnish such transportation upon reasonable request. We must also be reasonable in such refusals to furnish the transportation. The grain situation at certain Atlantic ports has already, at the very beginning of the crop season, required effective embargoes. It is not a complicated matter. Industries at times ask the carrier to place similar restrictions. Ordinarily they are reaching out for business, as are the carriers, but occasionally too much of one commodity is offered.

If the people of this country, dependent upon rail transportation as they are and must be, would not deal in such a parsimonious fashion with the carriers, a large surplus of facilities, i. e., terminal tracks, engines and cars, might be carried for times like the present. Transportation is about the cheapest necessity in this country and we can well afford to have an ample supply on hand, perhaps not enough to fill the present demand—never equaled in the history of our railroads—but enough for what might be termed ordinary emergencies, the fluctuations of crops, business expansions and contractions, etc. According to McCauley the agency that lessens distance is a benefactor of the human race. Railroads are not philanthropic institutions, and they should be amply paid for their part in annihilating distance

September in the Farm Garden

Watch the Weeds, and Plant Vegetables Suitable for Wintering Over

By Charles H. Chesley

THIS year has been especially trying in the garden. Last season was a very wet one, and it was impossible to keep the ground properly cultivated, and as a result many weeds went to seed. We are reaping the fruit of that neglect this year. If the weeds could not have been kept out by pulling and cultivation, they ought to have been cut before the seed ripened. However, as this was not done, we are having a lot of extra work this year.

Again, the present season has been favorable to the germination of any seeds that have been in the soil, on account of an abnormal rainfall. Early in the season the ground was so wet that it was impossible to do justice to the planted crops in the way of early cultivation, hence at this writing we are busy getting rid of weeds that seem to grow almost as rapidly as mushrooms.

It is important for the gardener who plants the same seed year after year to keep out all the weeds that spring up in late summer. Too often we are apt to reason that it does not matter late in the season if weeds are allowed to grow. Our advice, from stern experience, is that a merciless war be waged on the whole tribe of ragweeds, pigweeds, and all other weeds, right up to the first of October. After that date it is not likely that anything will develop sufficiently to ripen seed.

Spinach should be planted early this month for wintering over. Choose a well-drained bed. This may be land where a crop of potatoes have been taken off. It should be, preferably, a spot that has been well fertilized and cultivated for at least one year. New ground, if well prepared and enriched with well-rotted manure or commercial fertilizer, will do. A spot from which the snow melts early in the spring is best. For this reason a warm southern slope is ideal. Plant the seed at once, and before the severe frosts come on cover the plants with straw or coarse horse manure. This is to guard against alternate freezing and thawing. A standard variety is Round-Leaved Winter. Other desirable kinds are Munsterland, Norfolk Savoy-Leaved and the new Eskimo. Spinach should be grown in every garden, because it is ready for use before any of the other garden "greens."

Winter radishes are not as popular as the spring varieties, yet they are well worth growing. Few persons realize that these radishes are fully as good as turnips when properly cooked. Of varieties, Chinese Rose and Long Black Spanish are well known. These vegetables grow rapidly, and should be stored in moist sand in a cool cellar for winter use.

Some gardeners find it difficult to make the cauliflowers head up well. This is largely due to dry and hot weather. The cauliflower is a plant that loves coolness and moisture, hence it is a good plan to mulch all about the plants with old barnyard manure or rotted hen manure. Spread the material over the ground two inches in depth, being careful that it does not touch the stems of the plants. This plan, if started early this month, should give firm and large heads early in October. We grow only the early varieties, such as Snowball, and once they start to head grow quickly. As the heads begin to grow, draw the leaves together and tie. If the tender heads are allowed to receive the full warmth of the sun, they grow dark and tough. Tying up the leaves keeps them white and crisp.

The mulching method, mentioned above, has proved effective in stimulating the little heads to form on the stems of Brussels sprouts. If the stems are well grown, break down all the side leaves, leaving only the tuft at the top, and the little "cabbages" will soon develop, one in each leaf axil. Sprouts continue to grow and harden even after severe cold weather comes on. Last year we had several "messes" right out of the garden even after Thanksgiving.

This is the month when the number and variety of garden products reaches the maximum. It is usually quite impossible to use all that ripens, hence the housewife should get busy with canning. The surplus products put away for winter use will serve a useful purpose when cold winds are blowing. Perhaps the easiest method is the so-called cold pack, and in general the most available cans are glass. With a proper canning outfit, which is not very costly, tin cans may be used.

The green cabbage worms are serious pests on both cauliflower and Brussels sprouts as well as on the cabbages. It is safe to use arsenate of lead or Paris green on the cabbages, as all the new growth is from the center, hence the poison remains entirely on the outer leaves. A solution of saltpeter may also be used with good results. We have found that the worms attack the cabbage in preference to either of the others, when all three are grown together, hence we plant all on the same piece of ground. Hellebore, at the rate of one ounce to three gallons of water, is safe to use.

Some of the most delicious products of our garden this year are Berger's Stringless Green Pod pole bean, Early Purple Vienna kohl rabi and the Herald cabbage. The pole bean bears long green pods which are entirely stringless, and of delicate flavor. We have never grown it before, but shall consider the garden incomplete without it in the future. Kohl rabi is used when not larger than a hen's egg. At that size the vegetables are entirely lacking in woodiness, and possess a flavor entirely different from any other vegetable. To properly cook kohl rabi, the bulbs should be peeled and sliced before being put in the boiler. Every one should raise this "turnip that grows above ground." We made a planting

(Continued on Page 22)

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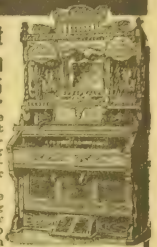

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The Third of a Series of Special Articles on This Most Important Subject in Household Economics

By Eva Ryman-Gaillard

IN THIS little talk about pickles, catsups, relishes and their near-relatives, emphasis is placed on the need of common-sense as something to be combined with every recipe, no matter where found. In one article written by an expert, so-called, and published in a leading magazine, was the utterly absurd statement that "the least quantity of water, even a wet spoon, put into the pickle jar will spoil its contents." The statement would merely provoke a smile from the experienced worker, but might prove a stumbling block to the younger one, who did not know how frequently too-strong vinegar is diluted, or fresh brine added to the pickles put down that way.

Most recipes are reliable, but very few are injured by changes. One could not well make peach chutney without peaches, but where my recipe calls for garlic and chillies no one is the wiser when I substitute onion and sweet red pepper. There is no hard-and-fast rule governing these things, and changes and substitutions simply result in a greater variety in the winter stores.

BRINE PICKLES

Some good pickle-makers put a layer of salt and a layer of small cucumbers, alternately, into the pickle crock, or cask, and let the brine form without the addition of water. In my own work I prefer to make a brine that will hold up an egg, and put the cucumbers into it each day, as picked. Rock salt is by far the best for any brine, and the common barrel salt is better than the finer table salt—the coarser salt being purer.

In putting pickles in brine a scum soon begins to form, caused by a gum in the cucumbers, that makes them unpleasant to handle. This will cling to the cloth over the cucumbers and may be washed off each time cucumbers are added until all are in the brine. Then, after the last of those put in have had a few days in the brine, wash the cucumbers and place in a fresh brine, or freshen and put into vinegar, spiced to suit the family taste, and put into cans ready for use.

For the quickest pickles known pick the small cucumbers every day, rub off the little black spines, and place in a pickle made by adding a cupful each of salt and mustard to a gallon of vinegar. Add each day's picking and stir up well from the bottom each time. In a few days the first ones will be ready for use, and can be told by their yellow color. Some people use a cupful of sugar with the salt and mustard, but the cucumbers are more apt to wilt, and lose the cracking crispness that is their chief charm. If a sweet pickle is wanted, I use a scant teaspoonful of saccharine instead of a cupful of sugar, and for my family I always add a few sprigs of dill, or a spoonful of the seed. With the saccharine and dill added it is hard to tell the pickles from the sweet ones sold at the stores. These are not recommended as pickles that will keep all winter, but they keep well for a long time, and are so quickly ready for use that the trouble of preparing is very little.

Considerable has been written against the use of saccharine because of its harmful effects on the stomach, but few people would eat enough pickles to get any injury from the very small amount used.

For an Indian pickle put two gallons of vinegar, eight ounces ground mustard, two ounces celery seed, four ounces ground ginger, one teaspoonful of whole cloves, three sticks of horse-radish and a cupful of salt together and boil for fifteen minutes. When cold add small cucumbers as picked, or beans, cauliflower broken into small pieces, small plums, radish pods or anything like—one variety, or a mixture of all sorts.

For a yellow pickle mix one cupful of flour, six tablespoonfuls dry mustard, one tablespoonful of turmeric and one cupful of sugar to a paste with a little cold vinegar, and add it to two quarts of boiling vinegar. Cook until it thickens. Parboil in salted water lima beans, bits of cauliflower, button onions or other things until tender, then put into the dressing and cook until thoroly done. One variety or many may be used, but the dressing is particularly fine for use with either cauliflower or tiny onions alone. Put plenty of the dressing into each can, as it is mighty handy for use in making salads, for moistening chopped meats for sandwiches, or other purposes after the pickles have been used.

CATSUPS

In making cooked tomato catsups, the tomatoes should be cut up and allowed to drain thoroly before cooking, the object being to shorten the time needed for cooking to the right consistency—the long cooking tending to destroy the bright color that is desirable. Another help in this direction is the use of the liquid spices that may now be had. If the ordinary spices are used they should be put into thin bags and removed when the catsup is as strong of them as desired. Leaving them in destroys the color as well as, gradually, makes the catsup too strong.

An uncooked catsup keeps the fresh tomato taste to a marked degree. Peel and chop a peck of fully ripe tomatoes and let drain for twenty-four hours. Add four bunches of celery (chopped fine), and one cupful of chopped onion. Mix all together, add one-fourth of a cupful of salt and as much sugar, two tablespoonfuls of mustard seed and the same amount of ground cinnamon.

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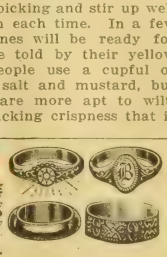

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one tablespoonful of ground allspice and two large red peppers chopped fine. Mix all together thoroly. Cover with cold vinegar, and put into cans.

RELISHES

A celery relish calls for exactly the same ingredients as the uncooked tomato catsup, with the exception that twice as much celery is used, and it is cooked to a marmalade-like consistency.

A delicious cucumber relish is made without cooking, as follows: Pare and remove the seeds from a dozen large ripe (yellow) cucumbers; chop fine, mix a cupful of salt thru the mass and hang in bag to drain for twenty-four hours. Chop twelve large onions and six red peppers, and mix with the drained cucumbers, then add one-half cupful of celery seed, the same amount of sugar, and one-fourth of a pound of white mustard seed. Mix thoroly, cover with cold vinegar and put into cans.

A pepper relish that is delicious in sandwiches is made by grinding together five dozen sweet red peppers and one dozen onions, and cooking in a quart of vinegar for fifteen minutes before adding two cupfuls of brown sugar, a tablespoonful of salt and a little celery seed. Boil all together for an hour. Put into cans and seal.

To make a fine corn relish: Chop a good-sized head of cabbage, sprinkle over it two tablespoonfuls of salt, and let stand over night. Cut kernels from twelve ears of corn, chop three peppers and mix all together. Mix with them a little celery seed and grated horseradish, either, or both, or neither, according to the family taste in relishes, as neither is essential to the keeping quality. Rub a quarter of a pound of mustard and a cupful of sugar to a smooth paste in a little cold vinegar; add it to two quarts of vinegar and bring to boiling heat. Pour this dressing, boiling hot, over the vegetables, mix thoroly and pour into cans or small jars, according to length of time it is to be kept. If I intend it to be used within a few weeks, I use small jars, but for what I want to hide away for use months in advance I use the cans.

The appearance of the above, and some other relishes, depends largely on securing the light, bright yellow mustard, as the darker sorts impart a brownish, dirty appearance. If making a supply for long keeping, it is well to mix in a granite pan or large kettle, and let stand over the fire a few minutes until thoroly heated thru and thru.

With a generous store of prepared horseradish in the cellar, some relishes may be made at any time. One of them (not meant for long keeping) is made by mixing a finely chopped cabbage head; a quart of cold boiled beets, chopped fine, a cupful of horseradish, a cupful of sugar and a cupful of vinegar together, salting to taste. The redder the beets the prettier the relish.

To prepare horseradish for winter keeping, simply grate it, and add two tablespoonfuls of white sugar, a half-teaspoonful of salt and a pint-and-a-half of vinegar to each coffee-cupful of the horseradish. Bottle and seal.

The relish known as Pepper Hash is too good to leave out: Remove seeds from twelve large red (sweet) pepper and twelve green ones and chop them. Mix with fifteen large onions, chopped; cover with boiling water and let stand five minutes. Drain and cover, again, with boiling water and let stand ten minutes. Drain thoroly, and add a quart of vinegar, a cupful of sugar, and three tablespoonfuls of salt. Boil fifteen minutes. Seal.

This makes a perfect filling for mangoes made from green tomatoes, tho some prefer part horseradish, which may be added to the hash at pleasure—whenever the mangoes are to be filled.

GREEN TOMATOES

Green tomato recipes of the really worth-while sort would fill a page, but for the reason that almost every woman has many tested ways of using none will be given here. How many know that the green tomato makes a delicious mincemeat, without meat?

One secret of keeping pickles, relishes, or anything of the sort, lies in having enough of the syrup or pickle, whatever the dressing may be, to completely cover the solids.

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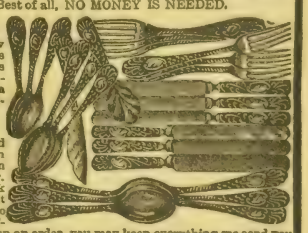

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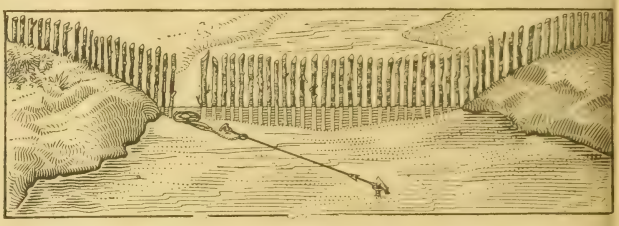
Hunting and Trapping Department for FARM NEWS Boys—Getting Ready for Trapping

By C. H. Chesley

IN NEARLY all country communities, but more especially in those that are sparsely settled, there are numbers of fur-bearing animals. As cold weather approaches in the fall the pelts of these creatures become prime, and the farm boy can make a tidy bit of spending money by trapping them. The work is really but a pastime for most boys, and, while some contend that it is cruel sport, one may be sure that every time he captures a mink or a fox, he has taken a bloodthirsty miscreant that is one of the worst enemies of the denizens of the poultry yard.



Stake out an enclosure like this far enough in advance of the season to allow the animals to get used to it

In fact, all fur-bearers are, to a greater or less degree, enemies to the farmer. It would not be good business, however, to take the animals when their coats are valueless, unless they are caught directly in the act of committing some depredation. The way to keep them in check, then, is by trapping them when their furs are worth money. Fortunately this is at the time of year when work is least pressing on the farm.

Most farm boys have a pretty intimate knowledge of the habits of the wild creatures that make their home in his community. This stands him in good stead when he puts out his traps, for the most successful trapper is always the one that knows most intimately the life and haunts of the animals. An experienced trapper can go into a community where he is not acquainted and capture pelts, but he can do much better if he spends the entire year there, for in that way he is able to locate many of the dens, runways and slides long before it is time to put out the traps. The farm boy has this in his favor, that he is able to keep track from year to year of the spots where the skunk makes his den, where the muskrat lives and raises his family, where the mink best loves to fish, and where the wily fox most frequently passes. The sharp eyes of the average country boy have noted all these things.

At the time this is written the prospects are good for high prices. Since the great European war began, this country has become a great fur market, whereas before, practically everything was sent abroad. Last winter the prices were high, and there is every reason to believe this season will be a repetition of the last. Many of the trappers of Canada and Siberia have become soldiers, hence it is reasonable to assume that the catch will fall short of the past average. Thus, we reason, prices will be good.

In the latitude of the central states, one should scarcely expect to put out traps until November. A mink taken in this section in September is worthless, while one captured in October—unless it be the latter part—is little better. The skin becomes prime in the latter half of November and remains good thru December. In general it may be said that no traps should be set for until November, unless it is for the raccoon. This creature may be trapped in October in those states that do not forbid it by law. Right here it should be emphasized that no one should set traps until he has become familiar with the game laws of the state in which he expects to trap. Full information may be obtained by addressing the Fish and Game Commission at the capital city. Most states restrict trapping more or less—some by limiting the time during which pelts may be taken, others by making it necessary to obtain a written permit from the owner of the land on which it is proposed to set traps. Still others go so far as to prohibit trapping on any land except that actually owned or leased by the trapper.

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The skunk is the first animal to become prime, and traps may be put out in October. This and the raccoon are the only creatures that should be taken before November. During September much preliminary work may be done. The first thing is to decide on the territory. With the farm boy this will usually be the immediate neighborhood of his home. Find spring holes and enlarge them. These are excellent places to make fox sets. Stone houses and enclosures may be made along the banks of brooks and rivers. By building and preparing such places early in the fall the animals become used to them, and enter them the more readily when the traps are put in place. All creatures of the wild are very suspicious of any changes made in natural surroundings, and it is often some time before they can be induced to enter such places. This is especially true of foxes, otters and some of the larger fur-bearers. It is a good plan to stake out enclosures in streams, leaving a place for the trap. Many muskrats and minks are caught in traps set in running streams, where a row of stakes has been set across the current, leaving only a small space in the center. Where this work is done early in the fall the animals learn to swim thru the opening without fear, so when the traps are put in at the proper time, catches are pretty certain to be made.

Other work that may be done is the placing of a few hollow logs across woodland streams. A later article will tell what pelts to expect from such places. Small fish and minnows should be placed in enclosed springs where they cannot escape. Some of the best of the fur-bearers are very fond of fish, and it will pay to cater to their taste.

The farm boy will find it to his advantage to use steel traps. The deadfall and other home-made contrivances are rather out of date. These may do in new countries, where animals are plentiful and money to buy traps scarce. The price of good traps at the present time is so low that anyone can afford at least a few. In a later article on equipment the various steel traps will be described. Before the traps are put out, it should be ascertained about how much time will be available to attend to them. It is no use to set a longer line than can be properly cared for. Each trap should be visited daily. It is not only the height of cruelty to allow an animal to remain in the trap an unnecessary length of time, but by so doing there is danger of losing the pelt. Some unscrupulous hunter may find the creature and purloin it, or it may be destroyed by another animal. Again, the animal left in the trap a long time often makes its escape. When the trap first closes on its foot, it will make desperate efforts to get away, if not killed outright. After a time it becomes quieter, but constant trying to release its foot frequently results in tearing off the foot. Whenever possible traps should be so set as to kill quickly. When this cannot be done, the trap should not be fastened securely. Methods of attaining these ends will be described in connection with the various animals.

Learn as much as possible about each creature that it is proposed to trap. Not only learn the localities which they frequent but ascertain on what they subsist. Baits are necessary for best results with some animals, and it is therefore important to know as much as possible about their diet. Some creatures are very particular about what they take for food. Others may take almost anything, and seem to have almost no fear of man or his traps.

Some animals will take nothing but fresh food. Others like it all the better if the meat be old and well "ripened." A bait that has been used with good success by the writer is fish oil. This is almost the last call in scents if far-reaching and lasting qualities are desired. It is made from some soft-scaled fish, like the pickerel or trout. Catch the fish this month and, after cutting it into small pieces, put it in a glass jar of the "lightning" type. Put the spring over the cover, but do not clamp it down tightly. Set the jar in some out-of-the-way sunny place and leave it for a month or six weeks. The oil which rises to the top of the decomposed material is an excellent scent to lure the mink and other animals.

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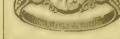

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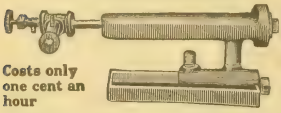

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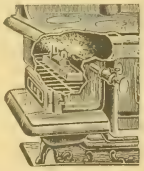

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The Kerogas is a wonderful money-maker for agents. Aker averaging 8 sales a day, says he expects to sell a dozen a day when he gets fairly started. Carleton made $17.50 in a day and a half. M. G. Emanuel writes: "It's a wonder. I'll keep you busy filling orders." "Can sell 25 Burners right here in my locality."—Roy F. Mills. W. E. Aton sold 12 first day.

Mail blank below today for particulars and sample.

SEND THIS TODAY

The Thomas Manufacturing Co.,
3952 Thomas Bldg., Dayton, Ohio

I am mailing this coupon for terms and agent's demonstrating sample.

Name.....

Street.....

City.....

State.....

September in the Farm Garden

(Continued from Page 17)

as late as the first of August, from which we expect to get good bulbs before severe cold weather spoils them. The Herald cabbage is the best of the Savoy class.

We use ordinary glass jars of the spring-top type, and can everything that grows in the garden. The time required for cooking or processing was first ascertained from the bulletins issued by the U. S. government. The rules for different vegetables and fruits have been carefully followed, with the result that we have never had a can spoil. The easiest method is by the use of the steam pressure canner, but we have found that an ordinary wash boiler fills the bill quite acceptably. It simply requires a little longer to do the cooking. A rack is placed in the bottom of the boiler on which the jars are set. The water is then boiled for the required length of time. The time required for different vegetables has been published in most papers, or it may be obtained from the government at Washington.

Of the garden products that may be successfully canned the following may be named as desirable: Beet greens, spinach, beans, sweet corn, beets, carrots, turnips, kohl rabi, Brussels sprouts, cauliflower, asparagus and tomatoes. In addition many kinds of sweet and sour pickles may be made from green tomatoes, cucumbers, onions and cauliflower. Small fruits and berries may be canned by the cold-pack method as well, and they retain form and color much better than when cooked before putting in the jars.

Celery plants will now have reached about their full growth and some of the plants should be blanched, not all at once, but gradually as needed. Boards are best for blanching, as there is apt to be too much moisture in the soil to make banking with earth a safe method. It is claimed that the celery blanched with earth has a better flavor, but we usually consider it safer to risk the boards.

The farm garden that has some sort of system for irrigation will find it useful. Many gardens are so situated that water pumped by the windmill or gasoline power may be utilized. There are seasons when this is particularly desirable during the summer and early fall. If no method of bringing water to the garden is now available, it is a good time to plan out some system for next year. Right now, when the need is obvious, is a good time to look into the matter. If the garden is situated on sloping ground it is a comparatively easy matter to bring water to the higher side and distribute it by force of gravity.

As to salad plants for the autumn, one of the best is the so-called Chinese cabbage. Endive is another good one, but both of these need to be planted in August. Lettuce, then, is the standby. Sow seed early this month. Soak the ground daily until the plants appear. Thin and cultivate. Cover with a cloth as cold nights come on, or use a frame for protection. Good heads of lettuce may be grown in the fall as well as in the spring.

Salesmanship in Farm Marketing

(Continued from Page 3)

and have all of their product put up by men who are experts in the work, and who are employed for no other purpose.

The problem of marketing and handling is not one that can be solved by individual effort alone. One man may put up his produce in good shape, and establish a name for first-class goods, but at best his reputation will be only local and known among a few dealers and consumers. Whereas, if a large number of growers combine, and have their products put up in uniform style and large quantities by men with experience, their goods establish a good reputation, and the demand will be wonderfully widened and better prices assured.

We must learn to utilize our inferior products at home, and place nothing but the best on the market. This should not mean, as it often does, a stinted home table and inferior rations in the feed-lot. It simply means that the small potatoes ought to be boiled and fed to the hogs or hens, and little gnarly apples and frosted vegetables, and all the other under-standard produce should be disposed of to stock or in some housewifely way, rather than be marketed in an attempt to make the good produce carry along the poor.

The man who puts inferior stuff on the market is not using good salesmanship. He is actually competing with himself in two ways: by curtailing consumption through putting inferior produce before the buyers, and increasing the supply through crowding more onto the market than the demand requires. The cause of unprofitable market conditions is not so often over-production as under-consumption, due to unattractive produce and poor marketing methods.

WHAT WE WANT TO DO FOR YOU

We will dig clear down to hardpan to get any information you may want to help you out in your farming operations. This does not mean that the editor knows it all, but it is his business to know the men who do know what you want to know. Just try us out on this some time, and see if we can not give you ten times the worth of the money you have invested in your subscription to Farm News. And then, if your time has expired, send in your renewal.

IMPROVE HOME-CURED MEAT

Don't let the cured meat get too salty. The practice of leaving the hams and bacon in the brine or dry cure for two or three months will always give meat that is too salty to be eaten with any relish. Two days for each pound weight of piece will cure the meat thoroly so that it will keep all summer, and will usually make it so salty that it will need some freshening before using. Shoulders that are to be used up before hot weather can be cured in considerably less time. Before the meat is to be smoked, soak it two or three hours in warm water. If it is too salty, soak for a full twenty-four hours, and then send to the smoke house.—P. F. Trowbridge.

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Given FREE

During "Ford Week"

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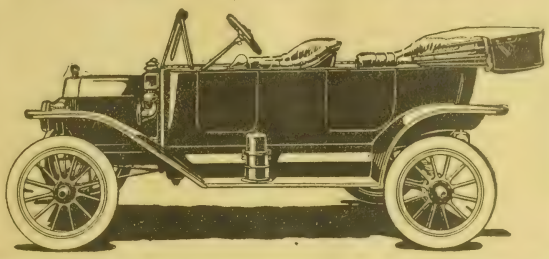

Latest 1917 Model Ford Touring Car, Sent Fully equipped and all Freight Prepaid—Nothing For You to Pay.

Ford Week October-1916	Mon.	Tues.	Wed.	Thu.	Fri.	Sat.
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Send Your Name Today!

No matter where you live, east or west, north or south, you have an equal chance with every other person in the United States during "Ford Week" to get this new Ford Touring Car, free. Any boy or girl has an equal chance with the "grown ups"—maybe a better chance. Why not get this auto for father and mother? My "Ford Week" plan is new and original, unique, simple and easily understood.

There is no chance or lottery in my plan, no tricks or hidden meanings. It is absolutely fair and square to all. Open and above board. A plan whereby the old and the young, the rich and the poor, all alike can take part with equal opportunity of securing this valuable gift free of all cost. There is nothing to do that you can't do. It requires none of your money, or none of your time which you devote to other things. It all happens during "Ford Week."

It Will All Happen During "Ford Week"

You should send me your name at once and enroll for this handsome gift. The real excitement will come during "Ford Week," October 16th, 17th, 18th, 19th, 20th and 21st, 1916. Just at a time when you can enjoy spinning along the beautiful autumn roads in your new "Ford." You may have your choice of either a touring car or roadster, new from the factory and fully equipped. You can have this car if you make up your mind to act promptly now, and follow my instructions. It is the newest and latest model.

"FORD WEEK" MANAGER

Department 21 **Springfield, Ohio**

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Use the Coupon Printed Below

For your convenience you may write your name and address on the coupon below, or if you do not want to cut your copy of this paper, just copy the coupon on a sheet of paper or a postal card and mail, and you will hear from me right away, quick—then you will know all about "Ford Week" and how to win this splendid auto.

Get in at the start now—TODAY—and then keep in. Send me your name—Mail the coupon at once.

"Ford Week" Coupon

"FORD WEEK" MANAGER, Dept. 21 **Oct. 16-21, 1916**
Springfield, Ohio

I desire to enter for "Ford Week." Tell me how by return mail.

Name.....

Post Office.....

R. F. D. No.....State.....

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Here are four of the most amazing bargains ever offered by Hartman's—the immense $12,000,000 Home Furnishing institution that is supplying the household needs of more than 2,000,000 homes.

Hartman's Special Farm Credit Plan

makes it easy for farmers everywhere to furnish their homes and buy paint, roofing, gas engines, cream separators, etc., on the easiest credit terms ever devised. Send coupon—no money—for any one, or all four of these wonderful bargains, and, if satisfactory, take a full year to pay.

Rocker Bargain

Rocker No. MK230. Frame strongly built of solid oak, with beautifully embossed carving on front posts, back panel strip and side wings; handsome golden finish. Upholstered in guaranteed Spanish imitation leather. Back divided into two panels by richly carved strip. Seat 19x19 inches; height of back from seat 25½ inches, from floor 39 inches. Seat supported by four heavy steel springs. This big, handsome Rocker is built for solid comfort. You can have no idea how restful it is until you try it, and, when you do, we feel sure that you cannot be induced to part with it. Price only $4.37. Terms: 60 cents in 30 days, balance in nine equal monthly payments; or, first payment of 85 cents in 60 days, balance in five equal payments at intervals of two months.

Send coupon for this big, roomy Rocker and let it prove for itself what a wonderful bargain it really is. You couldn't duplicate it elsewhere for anything like our special 'get-acquainted' price. If you decide to keep it, make a first small payment in either 30 or 60 days as you prefer and pay the balance in 30 or 60 day payments, thereafter, according to terms stated below. If, for any reason, you do not wish to keep it, return it at our expense. You run no risk whatever, because you don't send a cent in advance. Mail coupon today—sure. Order by No. MK230.

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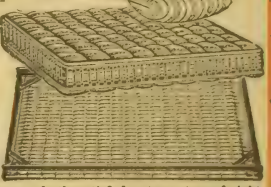

This is the greatest Bed offer ever made. Send no money—just the coupon—and we will ship the complete outfit of five pieces to you at once. Keep it 30 days and, if not perfectly satisfied, return at our freight expense. Order by No. MK234.

5-Piece Bed Outfit No. MK234. 2-in. continuous post steel bed, set off with 10 upright fillers and massive, ornamental ends; 55 in. high at head; full size 4 ft. 6 in.; 2-size 4 ft.; single size 3 ft. 6 in., White, Pea Green or Verris Martin, Gold bronze finish. Mattress has durable, soft cotton top, excelsior filling; absolutely sanitary; covered with floral art ticking; double stitched; strong leather tufting; 2 full size 19x36 in. pillows filled with selected hen feathers. Sanitary and odorless; attractive art ticking. Springs have reinforced angle iron frame; link fabric top connected at ends with strong helical springs. Price $26.95. Terms: No money in advance; 1st payment of $1.30 in 30 days, balance in nine equal monthly payments. Or, 1st payment of $2.20 in 60 days, balance in five equal payments at intervals of two months thereafter, giving you a full year to pay.

Order Direct From This Page

A FULL YEAR TO PAY

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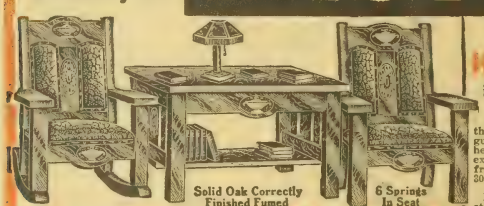

Solid Oak Correctly Finished Fumed

6 Springs In Seat

Grand Bargain in Library Set

You can have no idea how this elegant 3-piece set will brighten up a room. Send for it today. Just send coupon—no money. We will ship it at once. No C. O. D.—no deposit—no references asked as others do—no obligation to keep it. Return at our expense if not satisfactory. Compare it with 3-piece sets costing twice as much and you will understand what a remarkable bargain it is at our low price of only $15.85. Order by number.

3-Piece Library Set No. MK229. Solid oak in fumed finish. Adams period design. Table top 38x26 in. Stands 29 in. high and has 7 in. shelf. Legs cut from 2 in. stock, fitted with nickled slides. 5½ in. center panel with artistic embossing. 4 in. apron trimmed with Adams urn carving. Chair and rocker of solid oak with genuine quarter-sawed arms. Finish, trimmings and carvings match table perfectly. Chair 41 in. high; rocker 37 in. high; width 26 in.; arms 4x21 in., 19 in. between arms. Seats 19½x20 in., filled with wood fibre and moss. Supported with six heavy steel springs resting on steel channel bars. Top slat 7 in.; front rail 4½ in. Seats and backs upholstered in guaranteed Spanish imitation leather. Price $15.85. First payment of $1.60 in 30 days, balance in nine equal monthly payments; or, first payment of $2.65 in 60 days; balance in five equal payments at intervals of two months.

Sensational Heater Bargain

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Just think what a wonderful heater this must be when we are willing to send it to you on such unheard of liberal terms without the slightest obligation on your part! Not a cent in advance—just your bare request on the coupon brings it to you. We absolutely guarantee your complete satisfaction on this heater. If it isn't all, and even more than you expect, return it at the end of 30 days at our freight expense. If you keep it, pay in small 30 or 60 day payments as best suits you.

Vulcan Heater No. MK231.

Inside diameter fire pot, 15½ in.; diameter of body, 16 in.; height to top of urn, 50 in.; opening of feed door 12x3 in.; floor space 21x21 in. Air is admitted through hot blast tube and passes in and entirely around body of stove. The hot air mixing with gases and smoke as they rise, ignites them, making perfect combustion—the heat which will burn ordinary stoves passes up the chimney is all utilized in the Vulcan. Draw center shaker grate is made for either wood or coal. Shaker door permits shaking of grate without opening ash pit doors, preventing dust and ashes from falling out. A special feature is the solid iron base, giving additional strength and rigidity. Stove is fully nickled. Price only $14.85. Terms: first payment of $1.30 in 30 days; balance in 9 equal monthly payments; or, 1st payment of $2.20 in 60 days; balance in five equal payments at intervals of two months.

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FAS Ag serv

FARM NEWS

Springfield, Ohio October 1916

Library College of Agriculture University of Illinois

What Charles E. Hughes Says—

About the so-called "8-hour Work-day Bill" and the Administration's surrender to force

"The Adamson Bill is not a bill providing for an eight-hour work-day.

It does not fix hours at all.

What it does is to provide by law for an increase in wages for certain men. They may work just as long as before. They may work ten hours or more. They are simply to get more pay.

We are not concerned with anything that is said of the judgment of society with respect to an eight-hour work-day. There is plainly no judgment of society upon the increase of wages this bill requires.

The obvious fact is that there was a demand by certain men for an increase in their wages, and the Administration in advance of investigation surrendered to this demand.

* * *

"What is fair and right must be done.

But what is fair and right must first be ascertained. When railroads are required to expend additional millions, this burden must ultimately fall on the public.

It was proposed in substance by the Administration that increased rates should be charged to shippers so far as required to pay this increase of wages.

* * *

"What was the manifest duty of the Executive?

Plainly to insist that investigation should precede action, and that **nothing should be yielded to force.**

To say that fair and prompt arbitration could not have been had in this case is to indict both the Administration and the American people.

* * *

"It is said we were suddenly caught. I see nothing sudden about the matter, but sudden or otherwise, there was no justification for the yielding of principle.

Why not try the efficacy of standing for principle instead of giving it up in fear?

Of those who seek to excuse the Administration's surrender on the ground of exigency I ask how far do you propose to yield to force?

Where will you make a stand? Do you cherish the vain hope that by surrender you will accumulate courage or ability to withstand pressure?

When force is proposed and arbitration is refused there is but one stand to take and that is to appeal to the judgment of the country to vindicate the processes of reason.

* * *

"I do not speak of the propriety or advisability of fixing wages by law. I am dealing with a more fundamental question—legislation according to the facts as opposed to legislation under pressure in the absence of inquiry.

Within a few hours, on demand of the Administration, Congress provided a mandatory increase of wages, involving millions of dollars without any idea whether the increase was or was not justified.

Mr. Adamson said of his bill, "It is hasty legislation, I admit, to meet an emergency."

What emergency?

The emergency of force to which the Administration had capitulated.

* * *

"We have an unjustifiable attempt to use public sentiment with respect to an eight-hour work-day in order to justify a bill which does not provide an eight-hour work-day but relates solely to an increase in wages.

We have seen the choice of what seemed to be the easier way, which escaped the necessity of a determined stand for principles.

We have seen what has appeared to be the consideration of immediate political expediency at the expense of public welfare.

* * *

"WE CANNOT YIELD REASON TO THE RULE OF FORCE.

THAT IS THE PATH OF SURE DISASTER."

(From speech by Charles E. Hughes, at Springfield, Ill., September 20, 1916)

Published by
Republican National Committee

(Adv.)

When to Select Seed Corn

The Necessity for Judicious Selection is Important Work and Should Be Done At Proper Time

By C. O. Cromer, Purdue University

THE season of the year is now at hand when the practical farmer should provide for his seed corn for the coming year. A great deal has been said about the advantages of going thru the field early in order to select the earliest ears, those growing on the best stalks, and those attached at the proper place on the stalk. These reasons, important as they are, however, have not convinced enough people of the necessity of making seed corn selection an important work to be done before the time to begin cribbing their corn. It has been argued many times by some people that corn selected at husking time is the best because a long time for the full development of the germ is possible. On the other hand, frosts prior to the general husking have injured otherwise good looking ears.

With a view to determining the effect of the degree of maturity on the condition of the ears at the time the germination test is made, the Department of Soils and Crops began in 1909, to select corn of different degrees of maturity, store the same in the most favorable location and when dry make germination tests of the different lots.

Fifty ears each of the following different degrees of maturity were selected:

1. Just before the corn was dented.
2. When just nicely dented.
3. The ripest obtainable when the corn was ready to cut for the shock.
4. Ripest obtainable at husking time.

These selections have been made for five years and the average germination tests of the different lots for the five years are as follows:

Stage of ripeness when picked	Five-year aver. germ'tion per cent.
Just before denting.....	78.1
Just nicely dented.....	93.0
Ripest obtainable when ready to cut and shock..	92.7
Ripest obtainable at husking time	88.9

Judging from the above figures one may see that, while there is not much difference between the germinator performance of the second and third selections, there is a noticeable drop in the per cent of germination of the first selection and somewhat less marked fall in the germinator performance of the corn selected at the time the corn crop was cribbed. In short, one may conclude that the corn may be selected too early as well as too late. Further observations on the condition of the corn at the time of germinating it, showed that the ears of the first and second selections had a large number of diseased grains on them. In addition, the kernels were not fully developed and frequently the grain was not solid on the cob and quite often the ears were chaffy. The third selection, or the ripest obtainable at shocking time, was solid, the grain well formed and almost entirely free from mouldy or diseased kernels. The fourth selection, or the ripest obtainable at husking time, was always quite good in quality. No mouldy or diseased ears were selected. However, the five-year-average germination of this fourth selection made at husking time is not as good as that of the second and third selections. The yearly germination records show that when the fall is favorable for the maturing of the grain before the first killing frost, the germination of the corn selected at husking time is not as high as the germination of that selected earlier. For instance, in 1915, with an abundance of rain in September and the fore part of October, the corn did not mature properly and the frost, about October 25, reduced the germination of the corn about 26 per cent. In other seasons, with a dry September and October the germination percentage of the late selection goes up to that of the selection made at the time the corn was ready to shock.

An ideal way of keeping seed corn is shown above

The results of the experiment seem to warrant the following conclusions:

1. Seed selected before the corn has become dented does not produce a fully developed kernel. Its germination is low also.
2. The percentage of diseased kernels is highest in ears selected before denting.
3. The best time to select seed corn is after the corn has become well dented and before the first hard freeze comes.
4. One is liable to select some of the too late maturing ears, that have been injured by frost, if seed selection is delayed until corn husking starts.
5. Since no one knows how soon the first killing frost will come, it is acting one's faith in preparedness to select the ripest seed obtainable early in the season.

FARMERS' SEED CORN CLUBS

Farmers' clubs, industrious farmers, and everyone interested in corn growing should unite in a campaign for a seed corn selection day on which everyone concerned will see that work is started along this line in his own field. Those who know how to select can meet with those who do not and help them, or if there is sufficient interest, the college will send a man to help them out in this matter.

Many of the clubs have saved from 25 to 100 dollars for their members in buying seeds, twine, or fertilizer together, and have good reason to be proud of the fact, but here is an opportunity to accomplish even more.

A club of twenty-five farmers in any good corn-growing section may easily grow 50,000 bushels of corn next year, if conditions are normal. An increase of one per cent in this yield would amount to nearly $500 at present prices.

SEED CORN ON A TREE

Where mice and rats are a problem on the farm, seed corn may be produced by putting the seed on a "tree." This consists of a post erected over two boards set on edge at right angles. To keep mice and rats away cut a hole in the bottom of a pan the size of the end of the post and slip it down the post to about two feet from the floor. Nails with small heads or with the heads cut off may be driven at convenient distances about the "tree" to accomodate as much corn as desired. The posts may be made to hold three or more bushels of seed. The ears are attached to the "tree" by driving the butts onto the ends of the nails. — Agricultural College Extension Service, Ohio State University.

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Getting Somewhere

The Evolution in Country Life as Caused by the Introduction of the "Buzz-Wagon"

By H. A. Bereman

A REVOLUTION has taken place in rural life during the past ten years. It has been a bloodless revolution, proceeding so slowly and quietly that we might well leave off the "r" and call it evolution.

This change in the spirit of things agricultural is due to an awakened conscience of the average farmer toward himself and family in the matter of a more expanded life. Time was when the typical farmer of this land was very much of a beast of burden—a peasant, if you please—who regarded himself as a thing of brawn, to strive and sweat and deny himself all manner of pleasure to the end that he might store up enough of the earth's bounty during the summer to last him thru the winter.

Perhaps this intense drudgery was necessary in pioneer times, and doubtless the prosperity, now so universally evident on American farms, has come about thru more efficient methods of tillage, better seed, and more brains in the direction of muscle in the common tasks of raising crops and feeding livestock.

At any rate the old time farmer, yes, even those who lived on the land less than twenty years ago, looked upon farm life as necessarily monotonous, demanding great self-denial, and rewarding the worker meagerly with the sweets of life.

Especially was the farm accepted as a place remote—an eddy in the stream of life where the flotsam and jetsam of humanity went round and round in an unending circle of toil, never getting anywhere.

The revolution spoken of is that the farmer of today is getting somewhere; and this in its literal and figurative sense. He has changed his old habit of thought, and considers himself a part of the great currents of social and industrial activity. He is becoming more of a business man and less of a conservative plodder. He has learned that travel is the greatest educator in the world—next to reading—and he is getting somewhere else than sticking everlastingly around the old homestead. He has solved his problems of isolation; or rather, his problem has been solved for him by the mechanical wizards who have developed the modern, self-propelled vehicle.

I started out to write something about the pleasure side of the automobile—the joy-riding aspect of this great little emancipator. Of course there is much to be said concerning the purely pleasurable use of the motor car, but when you stop to think of it, the mere fun — important as it is, and necessary as it is to country people—the mere fun is but a drop in the bucket compared to the fact that "getting somewhere" has meant deliverance from virtual slavery, and an emergency into that larger realm where the farmer shall take his place as the commercial and political peer of his city brother.

According to the figures given out by the Federal Department of Commerce, about one million new automobiles will have been manufactured and sold in 1916. From past records it is safe to say that much the larger portion of these will be owned by farmers.

At one time the auto was bought by an occasional farmer as a kind of foolhardy experiment. Indeed, not so very long ago one of the popular farm periodicals of the east contained pages and pages of high explosives aimed at the automobile. It is ludicrous now to think of it, but the editor was sincere—only he didn't guess straight. He thought the auto would scare all the farm teams along the road, and he didn't propose that the farmer should be run over by a bunch of city dudes in goggles. But he was soon buried in the dust raised by farmer's automobiles, and now he has altered his views. This only illustrates how times have changed in ten or fifteen years. Nowadays the farmer who hasn't got an automobile is either a poor renter or else he is planning to buy a 1917 model.

The writer has occasion to do a lot of visiting around with farmers in the central states of this great nation, and one of the interesting things he has noticed is not alone the great number of automobiles owned by farmers, but the size and power of these cars. In many of these fine, big cars it has been my privilege to ride as the guest of prosperous farmers who have made good in their chosen fields of endeavor. At the close of one especially happy day spent with a prominent sheep-breeder of the cornbelt, the big car was brought out and cranked up with the self-starter, and the whole family accompanied me back to the railroad station. Grandma went along, as a matter of course. She sat in the back seat with as much composure as tho she were riding in a "One-Hoss Shay" of olden time. And grandma was exactly ninety-three. Her son-in-law, who was more than seventy years young, drove with just a trifle less recklessness than usual, and grandma never batted an eyelash.

I have often wondered what my own grandparents would say if they could be suddenly brought back to this world and offered a ride in a handsome touring car. I have pictured their amazement and awe, and perhaps their fear of this swift carriage of silence which annihilates distances with so much physical comfort and so little apparent effort.

Well, their surprise wouldn't last long I am sure, for the live grandma I speak of seemed to think no more of it than does the maddest speed maniac who races down the pike with the motorcycle cop.

In my wanderings to and fro in the land, seeking information on rural conditions, I ran into a full-fledged Harvest Home Round-up not long ago. The whole countryside had come into town to help the town folks celebrate their one big day. There was the gayly ban-

nered street-fair, the brass bands, the merry-go-rounds and the lemonade stands and numerous booths where you try your luck at all sorts of "sure things." It was a happy, noisy crowd, and the town was as full of automobiles as a corn-field is of blackbirds in October. They were lined up on every street—all parked diagonally in the center of the roadway. Being just a bit old-fashioned myself, I marveled at the difference between this spectacle and the experience of my early boyhood days when our folks jolted to the county fair in a clumsy, nerve-racking farm wagon.

Recently I spent a few days at one of our great fairs—no matter which one—they are all alike in this particular. The grounds were full of tents brought there and pitched by well-to-do farmers and their families. These smart people were enjoying a week's outing with all the comforts of country life and none of the drawbacks and expense of city life. Can you beat it? Truly, the old order changeth! And every one of those campers had come there in an automobile, with tent poles and canvas tightly strapped on at one side, while a suitcase or two gracefully decorated the rear elevation.

Every farmer and his wife need a vacation at least once a year. These folks at the state fair were getting a whole week of it, and having the time of their lives sleeping and eating in a tent; inspecting the thousandfold features of a great agricultural exposition; getting the kinks out of their nervous systems and new inspiration in— and all for the cost of a few gallons of gasoline and the price of admission to the grounds.

Yes indeed every ruralite needs a vacation once a year; and furthermore he needs a little recreation—pronounced re-creation—every day. He needs a change of thought and scene, if only for an hour or two. It promotes health and strength; it takes the sting out of drudgery, and it sweetens life as nothing else does. It is all right to work like Sam Hill and pile up prosperity—but Great Dollarmarks! you can't take it with you to the next world. Why not begin to enjoy it right now in a rational and soul-satisfying way? And when you have compared all the items on Pleasure's Calendar, you will find nothing so wholesome, so health-giving, so free from that getting up with Old Man R. E. Morse on the "Morning-after-the-night-before," as a scorch down the road in the Little Old Buzz Wagon.

VULCANIZING HINTS

Points About Repair Stocks

Save your scrap gums. You can return them to the factory for credit. The value of this material when returned depends largely upon its condition. The gums should be kept separate and free from foreign material.

When unrolling gums or fabrics for cutting, unroll them so the holland is on top, then roll the holland back. Do not destroy the holland, as it comes in handy to cover a tube plate, etc. Always cut gum along the length of the roll.

Cement

We have found that quick-cure vulcanizing cement is excellently adapted for repairing molded goods and other rubber articles which would not stand prolonged exposure to the heat of vulcanization. Hot water bottles, rubber boots, bands on date stamps, etc., are examples of articles that can be repaired with this five-minute-cure cement.

Nail-Hole Punctures

Why waste a big patch on a little nail-hole puncture? You can get just as good results in a much more economical way. Pick out the hole till you have a nice clean perforation; roughen with sand paper; apply cement, allowing it to dry 25 or 30 minutes; then roll up a small plug of tube stock just large enough to fill the hole. Cure five minutes on the first plate. The pressure will form the rubber plug into a sort of rivet on the inside and the repair will hold just as well as a large bulky patch.

Repairs Won't Stick

Trouble is often experienced in getting the tread to stick on small repairs. This might be due to any one of several reasons, the most common of which is applying cement over wet fabric. The moisture in the fabric, even if very slight, will blow the tread loose from the fabric. Another common cause for loose treads is the failure to roughen up the old carcass sufficiently. In this case the cement will not hold properly and after a few miles of running the repair will separate. It is also well to make sure that proper pressure is being applied to the repair when it is curing.

BUILDING BONES

Of Great Importance That Children Have Proper Food

A child will grow up weak or strong and sturdy, depending largely on the kind of food given.

That's why feeding the youngsters is of such great importance. The children do not select the food—the responsibility rests with the parent or guardian, or with you if you select the food for a boy or girl.

A Calif. lady writes: "When my little niece was taken sick and medical aid was called, one physician pronounced it softening of the bones and gave but little hope for her recovery. For weeks she had been failing before her parents thought it anything but trouble from teething.

"She had been fed on mushes and soft foods of different kinds, and had become a weak little skeleton of humanity that could not much more than stand alone.

"The doctors changed her food several times until finally she was put on Grape-Nuts which she relished from the first and ate at almost every meal and her recovery has been wonderful. She has gained in strength and weight and is now a rosy-cheeked and healthy little girl, still clinging to her Grape-Nuts.

"It is plain the food has saved her life by giving her body the needed material to keep it well and the bone material to build with."

"There's a Reason." Name given by Postum Co., Battle Creek, Mich.

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

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Farm Development Yields Profits

How An Enterprising Farmer Can Make More Money Improving Run-down Farms Than by Farming

By George H. Dacy

"I CLEANED up five thousand dollars from my one hundred and fifty acre farm last year," a farmer recently told me.

"How?" was my immediate query, as farms with $5000 incomes are rather extraordinary.

"Bought the place for ten thousand dollars, and within twelve months I had it in shape so that I was able to sell it for fifteen thousand dollars. Of course the five thousand dollars advance in price did not represent net profit, but enough of it was clear so that I made a mighty good thing from my farm-improvement proposition."

In many sections of the country the opportunity for quickly improving run-down farms, and disposing of them at a profit, offers more attractive returns than does out-and-out farming. A good manager, who is experienced in farming, in land values, in buying and selling, succeeds in work of this character. The disposition of money that is expended in rejuvenating the farm that lacks sightly face is of fundamental importance.

Usually the farm that is sold cheap is deficient in face and sightliness. The buildings need paint. The fences need attention. Perhaps some surplus trees need to be cut down in order that the farm may present a more attractive appearance from the highway. Fence rows need to be cleared, weeds must be controlled, machinery not in use should be housed, etc. The effort of the owner should be to judiciously spend his money where it will accomplish permanent results and where it will make the best showing. The majority of cheap farms lack face. When one developes their sightliness, and clothes them in go-to-meeting garments, their value immediately rises. A farm that lies well, and shows a goodly portion of its acreage in grass or other green crops, is attractive.

In case an investor or farmer purchases a large farm which has been neglected, and whose fields are barren of grass and profligate in weeds, the preferable plan for him to follow is to plow up as much of the land as possible the first season and crop it to corn. He may be able to harvest a good corn crop and home-feed it to cattle, which will provide profitable winter work for the help. After the corn has been cut and shocked the farmer can work his land up to desirable tilth by the use of a double-action disk harrow. Some operators prefer the spring-tooth harrow for this purpose. Then he can sow the land to wheat. Ordinarily the following spring the farm will be in fine shape to place on the market.

A deserted log cabin does not add to a farm's attractiveness

Often it takes a year or so to locate a desirable buyer, and on this account it is advisable for the farmer to sow timothy and clover in the drill with his wheat, so that the grass will be coming on after the grain has been harvested. To sow one half of the clover in the fall of the year and the other half the following spring is commendable.

Granted that it be the business of the real estate dealer to introduce the buyer and the seller, and thereby earn his five per cent commission, nevertheless, I believe that the farm owner should first strive to personally dispose of his land. When he has failed to market the place it will be time enough to resort to the aid of the land merchant.

In his selling campaign nothing will aid the farmer more than the judicious use of the advertising columns of reputable farm papers. He should select several of the best weeklies or monthlies in which to insert his advertisements. The "ads" should be concise and spicy, and worded in a manner that will present to the reader a birdseye view of the farm and its surroundings. Any special features of the farm or the adjacent region, or the particular adaptability of the place to a certain line of farming, should be emphasized.

A handsome residence adds many times its cost to a run-down farm

Some buyers prefer farms that are stocked and equipped. Others wish to buy only farm land and buildings. In selling out the owner must bear in mind that if he has to dispose of his stock and equipment at auction, he doubtless will have to accept many "deadbeat" notes or notes of uncertain value on long-time payments. On the other hand it might profit him to bulk his land, live stock and equip-

(Continued on Page 21)

How to Get a Pony Free

Here Is The Chance you have been waiting for to get a beautiful, playful little Shetland Pony, with Buggy, Harness, Saddle, Bridle and Blanket—all given to you without a cent of cost.

I Am The Pony King of America, and I have given away more than 407 Ponies to boys and girls. Now I am going to give away several more Ponies, and I want every family that reads this paper to stand an equal chance to get one.

If You Are a Boy or Girl, send in your name. *If you are the Father or Mother* of a boy or girl, send in your child's name. No charges of any kind—nothing to buy. Just send in your name and address.

Children Don't put off this chance. Don't wait. Write your name and address in the corner below, cut it out and send it to me. I will then send you the beautiful *Free Pony Picture Book* and you will have an equal chance to receive one of the real live Ponies that I am going to give away soon. You stand just the same chance as any other child, and it doesn't cost you a cent. Get a pencil and write your name now.

Parents Please show this offer to your child, and send in the Coupon. You will be interested in the Free Pony Book I send, and your child will enjoy it immensely and profit by it. I receive many letters from children telling me how they enjoy reading the book. Besides, *your child may win* one of the Shetland Ponies I am *actually giving away* this season. Your child stands the same equal chance as any other child.

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My Name is .....

P. O. .....

State ..... R. F. D. .....

Commercial Canning of Fruit

The Modern Cannery Has Proved to be an Indispensable Adjunct to the Fruit-Growing Industry

By Alvah H. Pulver

AT THIS time of the year, when one sees fruit and vegetable commodities of all sorts grown on the farm being hauled to market, he is led to wonder what possible method of consumption can possibly use up the year's supply. The farmer's eggs and butter can be marketed in driblets thruout the year, but now, with the harvest about all in, a steady procession of wagons waiting their turn can be found around the warehouses in the busy fruit districts. "Just look at that string of wagons loaded with peaches," one says, as if the fruit, which at best can stand up but a few days without spoiling, could hardly be consumed while in its prime.

But it is here that the canning factory steps in and saves the day. Peaches, indeed, would be but a passing luxury of a few days were it not for the processing art of preserving the fruit by canning, and to some extent, by drying. Peas would be practically unknown except to the favored few with gardens, and so on with a score of everyday staples, were it not for the canning factory. The cannery is here to stay, and any fruit or vegetable section not related to an active preserving plant is not getting the most out of its opportunities. A still newer industry is that of dehydrating plants for dehydrating vegetables, such as onions, cabbage, potatoes, celery, carrots, etc., a system built largely on the principles followed in the evaporation of apples, but this article will take up the canning side.

Bins of apples at canning factory. Apples make one of the largest runs of the season

In former days the farmer sold his fruit, if grown on a large scale, in one of two ways. He sold to the local dealer, or found his market direct with the commission houses. In the case of apples, he has often dried his product and then he was put to the necessity, often, of selling to his local dealer in that commodity. With the coming of the cannery a decided change set in. He was no longer limited to a one or two-house market. A more spirited bidding for his fruit at once took effect. Then, the canner offered to take more nearly matured fruit and stock that was not entirely free of blemish, since in canning, the fruit was put up for taste and not partly for appearance. So far the result has in every case proven that once a canning plant starts up the growers see to it that supplies are forthcoming so long as contracts are met and bills paid.

The cannery does not put in a bid on the fairest and finest fruit that grows. Apples of barreling caliber are sold as such, and if the grower is so foolish as to forward such stock to the cannery the manager will order it barreled and shipped on the factory's account. But in every large apple-growing district there are accumulations of under-size fruit, some slightly imperfect, and in some years most of it so. It is on such stock that the canning proposition is built, and once processed the finished fruit has all the flavor of the large apple that appealed to the eye for its large range of color. Much fruit that formerly was evaporated, so far as apples are concerned, is now canned, and the grower is much better pleased with the returns.

With peaches, cherries, plums, pears, quinces and other small fruits, the canning factory takes the run of the orchard—all go into the cans. Years ago this selling market was most limited, and not so very many years ago, in the Lake Ontario district of New York, now the great lake fruit-belt, there was no market for some of these crops, outside a local demand. The fruit was not shipped as a business, and when one gathered his requirements from such trees as he had, he invited his neighbors, not blessed with trees, to help themselves. All this is now changed, and one with a quart of berries or a pound of cherries can find a quick market in any one of the lake fruit towns.

The larger canneries have their own cold storages, and fruit not immediately wanted is here held. Cherries are taken in until late Saturday night, and on coming from the storage in the middle of the week evince no evidence of their long absence from the trees. Cherry pitters that are marvels of ingenuity remove the stones with incredible speed, one machine doing the work in a day that otherwise would require at least fifty women to accomplish. A few weeks ago the first peach peeling machine to be installed in the state of New York was placed in a packing plant at Sodus. This machine will turn out 1,000 bushels of canned peaches in a day, while by the old method 100 bushels would be a big day's work. Thru a certain process, which includes hot water, the skin is entirely removed from the peach. The fruit is then passed on to the pitters, which pits and halves the fruit. Thus, with improved labor-saving machinery, the canning factory is rapidly coming to be one of the best aids of the fruit-grower. The town mentioned, Sodus, has two such plants, one being built this summer. While the laborers were still at work on the plant the manager went out on the road and booked over $100,000 worth of canned fruit orders and before the long apple-canning season was reached the plant began to turn away orders.

Almost without any exception, every town along the fruit-belt district of Lake Ontario has at least one canning factory, and some of them have two and three. The writer remembers seeing the product of these factories in many grocery stores of the south and west, and in many others a want of them that no plants had as yet supplied.

Perhaps the greatest aid to the fruit-grower from the packing plants comes with the apple crop, unless he be one who makes a specialty of berries. Few growers have a smattering of apples. If they grow this crop at all they usually have a yield of goodly proportions, for in the lake fruit-belt it is the principal source of income to many. Peaches, pears, etc., are extensively grown, but the grower who expects to stay in the game as a life player usually pins his faith on apples as the best all-around

(Continued on Page 30)

FREE Shoe Book Tells How To SAVE $30 SHOE MONEY

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WARNING!

Leather Famine in America—Leather Shoe Prices Advance

Illinois Retail Shoe Dealers in convention in Chicago recently declared:

"This country is in the throes of a leather famine. Unless the world develops a substitute for leather within two years America will be the next "wooden shoe" nation. Shoes will cost $10 a pair, high legged boots will be a luxury beyond the reach of all save millionaires, and the people will wear wooden shoes, sandals or go barefooted."

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Uses of Red-Clover

Its Value Being Better Understood and Appreciated

WITH the passing of the years the value of the red-clover plant is being more and more understood and appreciated by the general class of farmers. Some of us can remember when the red-clover plant was not looked upon as a very valuable forage plant, even by the owners of dairy farms and cattle. It has taken years to prove to the farmers that red-clover makes a hay that is superior for feeding cattle, especially if milk is the object of feeding.

On land that is of heavy clay composition I have often seen red-clover do wonders, even when the surface of the soil had been practically removed. In a year or two it leaves the land filled with roots that are rich in nitrogen, and in their decay make a good foundation for the following grasses. I especially remember seeing a weedy area that had been reclaimed from the forest, sown with the seed of red-clover. The ground was not touched with the plow or anything else. Indeed it would have been very difficult to plow it, as it was full of roots. The seed of the red-clover was sown among the weeds, and soon a luxuriant of clover appeared. This field of clover remained two years, and when it left the weeds had disappeared. In its place bluegrass had come in naturally.

The clover plant has a very large root as compared with most other plants It has three or four times the bulk of the roots of a cowpea plant having the same bulk of top. For this reason it is a great help to land that needs nitrogen and humus. Moreover, the fact that it can be grown without losing the use of the land is very much in its favor.

Some advocate growing clover and turning it under. This plan has never appealed to me as being a good one. I have nearly always found it more profitable to let the land have the benefit of the roots only, and feed the tops to farm animals, afterward putting the manure back on the land, and the portion that is retained in the carcasses of the animals will be worth too much in the market to permit of its being disposed of in this way, using some other catch crop for turning under to supply humus.

I have found red-clover to be a good crop to use as a smother crop when dangerous weeds are to be gotten rid of. One year I sowed red-clover with white-clover on a piece of land, quite rich but somewhat weedy. It grew densely, and one would think the white-clover had been crowded out, like the weeds, but when I mowed it I found that the white clover was growing in the shade of the red-clover, and the growth of the two was so dense that the stems of the two plants for the lowest three inches were blanched, but not a sign of a weed could be seen for quite a few years.

Many farmers report unsatisfactory results from seeding clover and timothy with the grain drill, claiming that it does not distribute the seed and cover it to a proper depth to insure a good stand. Clover seed must be covered deep enough to secure moisture, and not so deep as to exclude air. In dry soil the covering must be rather shallow. In many soils, in a drier season, a lighter covering would prove fatal to the young plants. If the ground is properly supplied with moisture, an inch is deep enough. If the land is dry, two inches is about the right depth.

If the seed is sown with the grain drill, the use of a smoothing harrow, harrowing crosswise of the drill rows, will tend to scatter the seed between the drill rows, and give a better chance for the air and sun, because the grass and clover plants are not fighting for possession of the drill row, as they would be if left undisturbed by the harrow.

In seeding clovers and grasses avoid sowing late varieties of grain. Wheat is a better crop to seed with than oats, because the crop matures early, and the stand has a chance to thicken before the hot weather comes. Late grains mature in hot weather, and leaves the delicate plants exposed to the direct rays of the hot sun. If the main object is securing a stand of clovers and grasses do not use late varieties of wheat, rye and oats and let the grain seeding be thin; one-third less than usual.

BORROWING AND LENDING FARM TOOLS

If every farmer owned all the tools needed in caring for the crops he ordinarily grows, of course there would be very little borrowing and lending of tools. At one time the borrowing and lending of farm tools was practically necessary among the majority of farmers. Tools were expensive, crops small, money scarce, and thus a very large number of farmers could not afford to own all the necessary implements for carrying on their operations. A system of exchanging tools and work grew up and proved very satisfactory. But in these days of intensive farming and large crops, such a system is behind the times, save in exceptional cases.

There is one class of men to whom prosperous farmers should always be glad to lend their tools, when they can conveniently do so, and that is to the poor fellows just starting in business for themselves, who always have a hard time to make both ends meet at the best. As such a man gains in knowledge and means, however, it is well for his neighbors kindly to assist him to find needed implements for himself, so that he too may become independent. Much satisfaction and good comes to both parties when this class is properly assisted.

In the case of those men who are well able to own all the tools necessary to do their work, borrowing is justifiable only when a new crop which requires special tools is being experimented with, or in the case of a breakdown of some tool, or during an extreme rush in planting or harvesting certain crops. Implement dealers in the small towns seldom keep a full supply of repairs for farm machinery of all classes, and a farmer sometimes cannot wait until repair parts are sent

from the factory, if in the meantime he can borrow his neighbor's tools.

Borrowing is objectionable for two or three reasons. The borrower too often fails to return the borrowed articles promptly after he is done with them. A few trips after loaned tools puts a damper on the charitable nature of any farmer. The tools are sometimes returned with parts broken or misused; again, the borrower sometimes forgets or fails to oil all the bearings of a machine, and when the owner himself has occasion to use the implement serious trouble may develop.

The necessity for borrowing will be much reduced if every farmer will make an honest effort to own and keep in repair all the implements and vehicles, also small tools, he is likely to have ocacsion to use in his regular work. Tools that are needed only occasionally or those that are required only when handling special crops, may well be owned in partnership by two or three farmers. Indeed, under certain conditions, the joint ownership between neighbors of some of the farm implements that are not used daily has much to commend it. There are a number of farm tools that can be owned jointly with entire satisfaction to all parties to the ownership. Each joint owner can thus save some storage room as well as some money, and by planning together each can generally arrange his work so as not to interfere with the work of the other.

A DYNAMITE EXPERIENCE

Dynamite is sometimes a blessing to a farmer. I have been handling it for many years for stump blasting, etc. Every once in a while I am called on to help some farmer out in some way entirely new to me.

I think the many farmers that swear by your paper (and with good reason) would be interested in an experience I had a few years ago up in Tipton County, Indiana. It happened during the floods.

After a very hard rainstorm a twenty-four inch tile ditch on a certain farm became clogged at the heading. The water began to back up and overflow the land, finally reaching the farm buildings. The farmer was frantic, as he feared losing the year's crops.

I went over and asked him if he could locate the head of the ditch. He said he could. We made a raft and poled it to where he said the heading was located.

I tied six sticks of dynamite into a bundle; attached two electric blasting caps to the charge, which was then sunk into proper position by means of a rock used to weight it down. The leading wire was kept in hand and payed out hand over hand as we poled the raft away to a safe distance. The wires were then connected to the blasting machine and the charge fired.

In four hours the dangerous accumulation of water had disappeared.

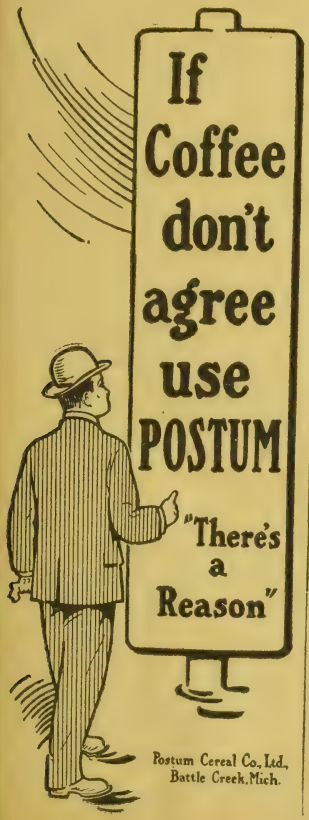
It's well for farmers to know something about the use of dynamite and to have a little of it on hand, or know where to get it quickly in emergencies, for often times occasions arise when it comes in very useful It is being used more on farms every year, and for an increasing number of purposes.—F. S. Bair, Ohio.

NEW CORN AND HOG CHOLERA

Hogs often take cholera soon after being put on a ration of new corn, and its use is often condemned on this account. New corn alone is not the cause of hog cholera, but it may be a factor, along with other conditions, that helps weaken the vitality and renders the animal less resistant to disease. In order that new corn may be fed with safety, the animals should be put in a healthy, vigorous condition before time to begin feeding.

When the animals are in a thrifty growing condition, there should be much less danger but the herd should be gotten on full feed gradually. It is well to give them about a stalk of corn per hog the first day, gradually increasing it by one stalk a head every other day so that it is getting two stalks the third day, three stalks the fifth day, and so on until they are on full feed.

This gives the stomach time to adjust itself to the new ration and is a specially good thing to do before turning old hogs into the field to hog down corn. It is less necessary in case of the shoats which are not so likely to overfeed because they do not have the weight and experience which enable them to break down the stalks very rapidly.



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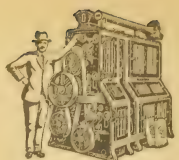

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A Good Road or Bad One

A Rural Proposition in Which the Effort of Each District Should be Centered

By C. L. Chamberlin

THE question of what constitutes a good road and what distinguishes it from a bad road is subject to many different interpretations. The answer given by any certain individual will depend upon that person's place of living, the soil of that section, the presence or absence of hills, gravel, clay and the purposes for which the road is used. Too large a number, even of those who are led to accept the position as overseer of highways for their community, never give the matter any real attention. If there are any decided "chuck" holes, certain marsh-bordered stretches, any steep hills that need grading, the question of what to do with the road fund, to be paid or worked out, is not hard to settle. When these defective points are repaired in a crude way by dumping wagon loads of soil from the sides of the road into the "chucks," plowing and grading down the hills, and if gravel be found near, drawing a few loads and leaving them in a narrow row in the road center, the required amount of annual road-improvement (?) has been completed. There is no further cause for concern until another season, unless a bridge should give way. But this process never yet brought about good roads, and it never will. There must be some definite plan, an ideal of what a good road should be, and the work of the local district should be centered on that idea until it becomes an accomplished fact.

A concrete road which will stand all kinds of travel

A road engineer views the ground, notes the present conditions, fixes in mind his ideal for these particular roads, then maps out the work that will be required to bring about the ideal, to make a good road out of a poor one. Not every road overseer in the small local districts, yet maintained in many states, can be a trained road engineer. They are just farmers with broad-gauged minds that comprehend the work to be done, and the need of some one to direct the doing, and with the willingness to devote sufficient time to the public welfare to see that the work is performed. One cannot expect them to devote time to the acquirement of a technical training for work for which the state will allow them the munificent sum of one and a-half to two dollars a day. It is a sacrifice to fill the office at all, but some one must fill it, and in filling it no more can be expected than that the farmer will devote his time with as careful a consideration of the problems attending as he would give to a problem pertaining to his own farm interests. Honor and decency demand as much attention as this, and the acceptance of the local road overseership should imply as much.

But what is a GOOD ROAD? What shall be done to secure it?

Look at a piece of road known locally among the people as a "good road" and at one so designated a "bad" road. Note the essential difference. Note all ruts, holes, uneven places, and see if they aid or hinder the progress of vehicles. Study the kind of footing afforded a horse on different kinds of soil. On some the horse drawing a load secures a firm foothold, while on others the least moisture render the surface slippery and insecure.

Study the effect of travel with a load in dry weather. Then go over the same road after a heavy rain. Does the soil in the traveled road bed hold the water in little pools and prevent its running off or soaking in readily? What happens when horses drawing loads pass over the wet places? How may the water be prevented from standing in the road if the nature of the soil prevents its soaking in? Should the road slope to ditches at the sides? How much higher should be the center of the road than the edges? Examine a road with ditches at the side. Are they kept open or are they allowed to accumulate weeds and brush. Do they slope properly, or does the water stand in pools at the sides?

Humanity driving on a public road has no laugh over a flock of sheep. Just as surely as the sheep follow their leader so men follow one another in a beaten track. And then ruts appear. And as they deepen the strips between them and at the sides rise higher. Rain falls and the water stands in the ruts, and the next wheel finds the soil so much softened that it cuts a full inch deeper than the last previous wheel. And so continues the process of rut making.

What is the remedy for ruts? Paint it in letters that may be read from one end of this road—using land to the other—THE ROAD DRAG OR SCRAPER. Just the old homemade split-log drag, the log divided into two equal parts as long as the distance between two opposite side wagon wheels with a foot to spare, edges held cutting surface front, the two sections fixed by cross planks some three feet apart. Draw it over the road and the cutting edges trim off the ridges and pull them into the ruts. The next rain dissolves the chunks and per-

mits the crumbling fragments to be forced into the ruts, and as the water soaks down and evaporates the soil dries leaving the ruts full. Only watch out for the narrow tired draft wagon that travels the highway soon after a rain. A more lasting road drag is constructed from a three-inch plank, a foot wide and eight feet long, on one edge of which the blade of an old saw or some strip of strong, thin metal is bolted.

Shall dragging be done from the center out or from the edges in? Should the dragging be done when the road is dry or after a rain? What is the effect of each coruse? One farmer objected to road dragging because he said it drew the soil from the center outward, lowered the center and filled the side ditches. Is he correct? What is the remedy? What sort of earth material should be placed in the road center? What would be the comparative effects of gravel and of clay? What can be said of the practice in some places of plowing the roadsides and scraping the soil into the center? One overseer said that sods made a firm, lasting road bed. Do you agree with him?

There are many points of view on roads, good and bad; there are fewer good roads which means greater opportunities for improvement. Let the acceptance of a road office carry with it the conscientious determination to make the best possible use of the opportunity.

THE OAT CROP

Oats are seldom a highly profitable crop, altho for the past six or seven years oats have brought fair prices and when large yields have been obtained they have helped to swell the annual profits. One of the most important factors in getting a good crop is seeding the crop early, so that the plants get a good start before warm weather comes. A week or ten days difference in the time of seeding often results in a difference of many bushels per acre.

One reason why fall plowing is beneficial for the oat crop, and for the clover and grasses seeded with the crop, is the fact that the ground has become settled, so that a compact seed-bed can be had as soon as the weather conditions in the spring permit. When seeding clovers and grasses with the oat crop, we use only two bushels of oats to the acre. As a rule three bushels of seed produces a maximum crop, but a maximum crop of oats is seldom associated with a maximum stand of clover and grasses. Hence, we prefer to sacrifice a few bushels on the yield of the oat crop and secure a full stand of clover and grass.

During recent years we are using 200 pounds of two per cent nitrogen, eight per cent phosphoric-acid and six per cent potash fertilizer with our oat crop, and find that it gives the crop an early start and encourages the stand of clovers and grasses. It hastens the ripening of the oat crop and produces plumper and heavier grain. The early maturity of the oat crop is beneficial to the seeding, for, as a rule, the earlier the nurse crop of grain is cut and harvested the better for the clovers and grasses. We seed the crop with a grain drill that has both fertilizer and grass seed attachments and follow with a light smoothing harrow to improve the soil conditions for the clover and grass.

When Nature Turns Outlaw

"Blow, winds, and crack your cheeks! rage! blow!—
You cataracts and hurricanoes, spout . . . . . ."

Thus King Lear, in Shakespeare's tragedy, defies the elements. But man, even today, cannot challenge nature with impunity.

The unsinkable ship goes down like a rock from the impact of an iceberg. The fireproof building is burned. The monument, built for unborn generations, is riven by lightning or shaken down by an earthquake.

There are storms which make train service impossible, which delay the mails and which close the public highways to the usual traffic. Even in the cities there are times when the street cars do not run, and neither automobiles nor horse-drawn vehicles can be driven through floods or high-piled snowdrifts.

Such conditions increase the dependence on telephone wires, which themselves are not exempt from the same natural hazards. Fortunately, however, the Bell System has faced these dangers and well-nigh overcome them. Masses of wires are buried underground and lonely pole lines, even the most stoutly built, are practically paralleled by other lines to which their business can be transferred.

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The Farm Mortgage Lifter

Starting a Herd of Pigs Gives Opportunity for Exercise of Good Judgment

By R. B. Rushing

THE first selection of the sow should be made from a herd showing uniformity of type, provided, of course, such type closely approached the ideal. It is much less difficult to judge of the probable value of a pig for breeding purposes at nine months old, or later, than it is at an earlier age. Therefore the safer and more economical plan for the beginner is to purchase rather young sows safe in young, or with a litter following them, and this latter is usually quite satisfactory.

The buyer should further see that the sows are well grown for their age, and resemble one another in characteristics and conformation. If the establishment of a purebred herd is aimed at, it will be found that no other distinguishing peculiarity will be of so much value and such a valuable advertisement as uniformity of type in the whole herd.

The stock boar or boars need not, and in fact had better not, be purchased at the same time as the sows. A study of the sows and their present litters for a short while at least, having in mind the sires of the various litters, will prove a wonderful help toward the selection of a good animal to head the herd. He should be chosen in conformity with the type described above, but any weakness of the sows should be kept in mind, and a boar particularly good where the sows are weak will be found of great value in correcting these faults, otherwise they are likely to be transmitted to the offspring.

Occasionally, where no serious faults are in evidence, and when it is particularly desired to fix more firmly some good quality or establish a type, pigs fairly near kin may be mated. It is unsafe, however, to make more than one cross with closely related sires, and, generally speaking, animals less than three generations apart should not be mated. Pigs are very sensitive to inbreeding. The cow may be inbred to a much greater degree than the pigs with no apparent injury to the offspring.

The sow should give her first litter when about one year old, if bred to farrow at an earlier age she is likely not to raise such a good litter; if allowed to go much over that age, on the other hand, she is adding to the cost of production quite unnecessarily, and may bring injury to her after-usefulness as a breeding animal. With many breeders the first litters are supposed to be inferior to pigs from subsequent litters, but my own experience does not in all cases support the theory. It is, of course, necessary to have no more pigs than she can properly nourish, and to feed her exceedingly well while suckling the young pigs.

I have usually found it better to allow somewhat more than six months between the first and second litter of pigs. For that reason, if possible, to keep the sow in fair condition, the first litter had better be allowed to run with the sow about three months, or perhaps a little longer. In this way she will be prevented from coming in heat. Sows, if allowed to come in heat once or twice without being served, are very frequently quite difficult to get safe in pig when it is finally decided to breed them. Sows giving only one litter a year are usually unsatisfactory breeders for the above reason, and altho fall litters may not be so profitable as spring litters, the breeder anxious to have spring litters at a certain time, and desirous of making the most possible money out of his feeding operations, will find it more satisfactory and profitable in the long run to have two litters in the year after they get started.

A succulent ration-pasture in summer and roots and silage in winter will be found the most economical and profitable. Rape, clover, bluegrass, alfalfa, vetches, peas and oats all make excellent pasture, and only a small amount of grain will be required where the above can be supplied in abundance. The chief consideration are to keep the sow in good flesh by means of flesh-forming rather than fat-forming foods, to let her have lots of exercise, and to keep her digestive organs in nice condition. Half-starved breeding sows are certain to give inferior, therefore, unprofitable young.

TO MAKE PORK SAUSAGE

Use only fresh pork. As soon as it is cold separate the lean from the fat. Take three pounds of lean and one pound of fat, cut fine in a meat-chopper, and spread out to be seasoned. The seasoning for four pounds of sausage

(Continued on Page 30.)

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Barbed Wire $2.50 **Extra Heavy 2-Point** Barbed Wire, coated with mineral asphalt paint. **Order No. DB-130.** Price per 100 lbs. **$2.50**

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$55 Install your heating plant now while material is plentiful and prices very low. Our experts give you complete, simple instructions. Put your own plant in. Warm air—**$55.** Steam—**$134.** Hot Water—**$154.** **Mail coupon for free Heating Book Now.**

Galvanized Fencing

20c per Rod — **26** in. High

Will turn most vicious hogs. Barbed wire bottom a special feature. **Order No. DB-140.** 26 in., 7 wires high, stays 6 in. apart. No. 11 gauge carbon wire at the top. No. 14 gauge intermediate line and stay wires. Per rod . . **20c**

$10.00

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Other sizes proportionately low.

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Greatest engine values ever offered. All sizes from 3hp to 65hp. **Order No. DB-190.** For 3hp at our special price of . . . **$44.00**

Can attach kerosene burners.

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Can't be beat for sturdiness, economy and simplicity. Special burrs a feature of grinding. Coarse, medium or fine. **Order No. DB-180.** For 8 in. **$12.65** Price . . . . . 10 & 12 in. sizes priced just as low.

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Best White Enameled

Cast Iron One-Piece Heavy Roll Rim Bath Tub 5 ft. long. Latest style nickel-plated trimmings—Fuller Double bath cocks for hot and cold water, nickel-plated connected waste, overflow and supply pipes. **Order No. DB-230.** Price . . . **$16.50**

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We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI — OCTOBER 1916 — Number 10

Just Between Ourselves

SHOULD THE GOVERNMENT FINANCE SETTLERS?

Is it within the province of the national government to furnish funds for settlers on the unsettled lands of the United States?

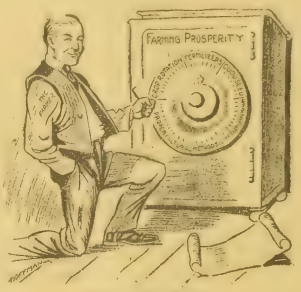
This will be one of the vital questions to be discussed, and possibly settled, when the International Irrigation Congress meets in El Paso, October 14 to 18 next.

It has been held that if the reclamation act of 1902, under the operation of which most of the reclamation work thruout the United States is being done, is to be made really effective, something more must be done under its operation than the mere building of dams and the digging of ditches.

In the early days of the reclamation of arid lands by means of irrigation under direction of the United States Reclamation Service, it was believed to be sufficient to build the dams, dig the ditches and provide the water. It has since been found that this has not been enough to insure the success of the settler of the lands reclaimed. Too many of the settlers attracted to the reclaimed lands have failed thru lack of capital. It is now believed that it is necessary not only to provide moisture for crops, but to finance the settler on irrigated lands until he has made it possible to earn his living and pay for his land while it is being brought under cultivation.

LARGEST COLLECTION OF DAIRY CATTLE IN THE WORLD

In building the cattle pavilion, at the Dairy Cattle Congress, it was thought that provisions had been made to comfortably accommodate all cattle which would be entered in the show. However, the entries already secured by the management more than fill the barn and arrangements are now being made to build an additional structure for 400 cattle. Undoubtedly when the show opens there will be 1,000 of the best dairy cattle in the world on exhibition. In order make the show high class in every respect, the management was forced to limit the premiums offered to the five great breeds of dairy cattle, viz., the Guernseys, Jerseys, Holsteins, Ayrshires and Brown Swiss. The premiums for each of these breeds have been made very liberal, and for this reason, together with the general good-fellowship developed among the exhibitors of cattle at the congress last year, promises to make this show the



Farming Prosperity

mecca of all dairy cattle exhibitors. The show also comes at a time this year which does not conflict with dates of any similar exhibition, and occurs just after the principal dairy cattle circuits of both the east and the west have been completed, thus making it the natural center for the greatest herds exhibiting at the state fairs and other dairy shows. Cattle are already promised from New Jersey, Massachusetts, Ohio, Connecticut, Michigan, Illinois, Kentucky, Wisconsin, Minnesota, Missouri, Arkansas, Texas, Colorado, Washington, Nebraska, Iowa and several herds from Canada. The best herds shown at the Iowa State Fair, the Minnesota State Fair, the Toronto-Providence Fair, the New York State Fair, and the other fairs of minor importance thruout the United States will be assembled in competition for the prizes offered. In short, the decisions made by the judges of the Dairy Cattle Congress will be among the champions of all other fairs. It will be a contest of supremacy among the champions of the champions at Waterloo, Iowa, October 2 to 8.

THE MUSIC TITLES PICTURE-GAME

The work of sorting and checking the answers in the several thousand Reply Books is much more of a task than the judges at first realized. This is work that must be carefully done.

The complete announcement will be made in Farm News just as soon as possible, and no labor or expense will be spared to do this. We appreciate the eagerness and impatience of our readers, hence we are hurrying the checking to the utmost.

In the thousands of reply books submitted to us, there are approximately three and one-half million answers to be looked over and graded. This will give our readers some idea of the stupendous task that confronts us. We have a large force of clerks constantly at work and can assure our friends that all possible speed is being exercised.

Do not write us asking whether you have won or not—no advance information can be given out. As soon as the game is decided the result will be published in Farm News, where all may read it. It is hoped this can be done in an early number.

PAID TO GRADE PEACHES

Peach growers in southern Ohio have been paid roundly for careful grading of peaches this year. By the proper selection for four grades they have been able to obtain twenty-five cents a bushel more for the better grades than the usual market price this season.

In baskets for first grade pack they have used the most nearly perfect, largest and best colored specimens. These were without blemish such as bruises, breaks in the skin or diseases.

In the second grade were put peaches of a smaller size of a little less color and with slight imperfections.

Peaches of the third grade consisted of those of small size and containing scab, slight abrasions and stings.

The fourth grade was still smaller in size and contained more imperfections.

The culls were partly decayed, wormy and otherwise undesirable.

The growers were assisted in the caring for and grading of their fruit by the Extension Service, College of Agriculture, Ohio State University.

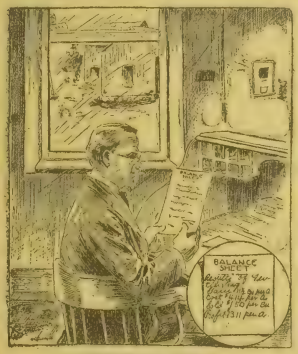
"Nope!" replied J. Fuller Gloom of Sniffles, Mo. "I shall not be obliged to employ an architect to plan and oversee the building of my new house. The loafers hanging around will tell me how everything should be done."

BOYS TO GET PIGS WORTH $300

With two more purebred gilts recently donated for the boys' pig club contests this fall conducted by the Agricultural Extension Service of the Ohio State University, the youngsters will have a chance to compete for a bred gilt of each of the six most common breeds of hogs in Ohio. Each pig is declared by W. H. Palmer, state leader of boys' and girls' club work, to be worth $50 or more. The breeds of hogs and the names of the donors are: Poland China, E. W. Foster, North Hampton, Ohio; Berkshire, W. H. Palmer, Thurston, Ohio; Duroc-Jersey, Howard Gerlaugh, Osborn, Ohio; Chester White, Charles Wenger, Clayton, Ohio; Yorkshire, Don Acklin, Perrysburg, Ohio; Hampshire, John W. Wuichet, Dayton, Ohio. The boy winning first place gets the choice of the breeds. The boy winning second place gets second choice and so on. The winner who accepts the gilts must agree to keep a feed record of the sow and the pigs for the year and exhibit both at the county fair.

THERE'S MONEY IN SHEEP RAISING

The breeding flock of sheep has been one of the best paying investments the Missouri farmers have had. Native or western ewes crossed with a good mutton ram produce good marketable lambs and with present prices of wool,



The balance sheet

the fleece will more than pay the cost of keeping the ewes.

Western breeding ewes can be purchased in carload lots at any of the stock yards. One hundred and thirty to one hundred and forty will be required to make up a carload.

The following is quoted from a reliable sheep commission house: "We believe breeding ewes will be in good demand thruout the season, as the good kinds only come at intervals. We believe it would be the best thing for anyone figuring on buying stock of this class to place their order at once, for we do not think they will get any cheaper any time this season than they are at present."

Good range ewes, sorted up for good mouths and udders, should cost from $7.00 to $7.75 per 100 pounds. These ewes would range in age from 4 to 6 years.—H. Hackedorn.

WHAT IS TRUE AMERICANISM?

Henry van Dyke, in his book, "The Americanism of Washington," offers a convenient touchstone for the testing of loyalty, in these days when men are asking what constitutes true Americanism. It is, he says: "To believe that the inalienable rights of man to life, liberty, and the pursuit of happiness are given by God. To believe that any form of power that tramples on these rights is unjust. To believe that taxation without representation is tyranny, that government must rest up on the consent of the governed, and that the people should choose their own rulers. To believe that freedom must be safeguarded by law and order, and that the end of freedom is fair play for all. To believe not in a forced equality of conditions and estates, but in a true equalization of burdens, privileges and opportunities. To believe that the selfish interests of persons, classes, and sections must be subordinated to the welfare of the commonwealth. To believe that union is as much a human necessity as liberty is a divine gift. To believe, not that all people are good, but to trust the whole people."

$50,000.00
Profit-Sharing Offer
To Readers of FARM NEWS

This is by far the greatest offer I have ever made

RUTHSTEIN'S STEELS

The World's Greatest Workshoes at Special Low Prices, sent on

Free

10-Day Try-On

SAVE $20 Shoe Money

Here is the most sensational opportunity ever made for the Workers of America to save shoe money by accepting NOW this great Profit-Sharing Offer I make to you.

Read Carefully—Then Act Quick—This Offer is Limited

I have determined to add quickly 100,000 names to my list of A Million Satisfied Customers. To do this I am willing to sacrifice a portion of my profits—to share profits with you: Therefore, it will pay you BIG to read and follow closely every word of this unprecedented Profit-Sharing Offer.

In twelve years of unqualified success with my Steel Soled Shoes I have never before made an offer of such vital importance to you.

Let me tell you the details of my wonderful money-saving plan for the Workers of America. For years you have read about my STEELS and have determined that "some day" you would try them. This is my special invitation to you to try STEELS when it will profit you most.

If you are tired of sore, wet, cold, calloused feet; corns and bunions; worn, cracked, twisted, leaky leather shoes; rheumatism, lumbago, colds and sore throat; Big shoe-repair bills; Big doctor bills; accept my offer today—within the time limit. Learn at once the true comfort, economy and health protection assured to wearers of my STEELS.

Let me prove by FREE TEN-DAY TRY-ON that my new, 1917 STEELS are the only light, practical, comfortable, long-wearing, absolutely WATERPROOF General Service shoes ever invented for Men and Boys—that ONE PAIR OUTLASTS 3 to 6 PAIRS LEATHER WORKSHOES.

N. M. RUTHSTEIN, The Steel Shoe Man
Dept. 247, Racine, Wis.
Also Manufacturers of the World Famous "Scientific Shoes for Dress and General Wear"

Do not misunderstand my motive for making this profit-sharing offer. I do not need to make this inducement to sell STEELS. Their sale has surely, steadily increased from day to day, year to year on Merit Alone.

This offer is made so you may know NOW just how necessary STEELS are to you in your work. It is made big and broad so you cannot afford to refuse to try STEELS at once.

You know, and I know that, because of the great increase in cost of leather the same grades of ordinary workshoes cost 50c to $1.50 more than formerly. The same price you paid last year for a fair grade of leather workshoes will hardly buy "shoddy", inferior stock today

But—in the face of rising costs of leather and steel I make this profit-sharing offer to enable you to buy my STEELS at lower prices than ever before offered.

Don't put this offer lightly aside. Remember that when this $50,000 has been distributed to workers who become my customers, this offer will be withdrawn

Send no Money—just mail the profit-sharing coupon (a postal or short letter) and my 1917 Shoe Book, measurement blank and all information regarding my big Profit-Sharing Offer will be sent absolutely FREE.

Profit-Sharing Coupon

N. M. RUTHSTEIN, The Steel Shoe Man,
Dept. 247, Racine, Wis.

Dear Sir: Please send me, without obligation, your free 1917 shoe book and full details of your great $50,000 profit-sharing offer.

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City.....

State.....

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Care of the Dairy Barn

Its Ventilation and General Care Important in Securing the Best Dairy Products

By John Underwood

THERE are few barns properly ventilated, altho every experienced dairyman is awake to the importance of this matter. In fact, in passing thru the country, even in dairy sections, one may have to pass a half dozen or more barns before he finds one in which a proper system of ventilation is installed.

The best system of ventilation we have is the King system, and to inaugurate this the barn must be tight and warm. One thickness of boards will not do, for the following reason: Ventilation is for the purpose of not only carrying out poisonous gases, and letting in pure air, but of carrying out moisture as well.

It is said that a cow will give off about seven pounds of moisture from her system every day. If the barn has only a single thickness of boarding, the outside wall will be cold, and this moisture will condense in the shape of frost on the outside wall. In order to prevent this the wall must at least be doubled, with an air space between, or still better, have this dead air space stuffed with straw. There might be some objection to the latter on account of rats and mice.

In the case of a neighbor, he double-boarded the outside, with heavy building felt between, and ceiled up the inside with matched lumber. The ceiling over head must also be tight, or the warm air will rise up thru, and the outtake will not work, for there is no pressure to drive the impure air up thru the outgo shafts, where the ceiling is open. In short the whole barn must be warm and tight.

The theory is that the carbonic acid gas that we want to get rid of is heavier than the air of the room, and so settles to the floor, and to get rid of it an outgo shaft must extend nearly to the floor. Now when we admit fresh cool outside air this impure air is forced up thru these outgoes. A makeshift of a shaft will not do, for it will not do satisfactory work. Some may board up a two-studding box around the plate, and then board in two rafters. This, of course, will make a shaft, but it will be one that will fill with frost in cold weather, and run down and drip in summer.

Others may make a shaft of galvanized iron. But this will not do. It may work where it is inside the warm barn, but up in the loft, where it is cold, there will be the trouble of the moisture congealing and filling it up with frost, which will not only obstruct the passage of air, but water will run down when the weather turns warm. The shaft should be made of double thicknesses of matched lumber with tarred felt between. This will not only make the shaft tight, but warm. This shaft takes out these obnoxious gases the same as the stovepipe and chimney carry out the smoke. The chimney and pipe must be tight or the stove does not "draw," so must the ventilating shaft be tight and warm besides.

In the case of the stovepipe, it can be made of metal, because the fire in the stove keeps the air very warm, which in turn warms the pipe. Air, to rise in a shaft, must be warmer than that outside, and if this impure air of the barn starts to rise, and becomes cool by coming in contact with cold metal, as will be the case with a metal outgo, it will cease to act. Hence a wooden shaft is best.

It is said that we should have one square foot of space for each seven

The New Portable—A Real One-Man Stump Puller

Proven a most economical device for clearing stump land. Pulls stumps *faster, cheaper* and with less work. Your fifteen-year-old boy can drive it around, load and unload it alone. The

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Comes equipped complete, ready for work. The new portable is the greatest development in stump pullers of today. One man handles the job alone, no extra help needed. Think of the tremendous saving of two extra men at $2.25 per day. **Hercules Beats Hand-Power Machine.** In Minnesota State Experimental Farm test the Hercules pulled more stumps than a hand-power machine and pulled the stumps at **61% less cost.** Think of it, 61% cheaper for you to operate the Hercules. The Hercules, at another State Experimental Farm test, pulled stumps at 70% less cost than dynamite. Write me your stump pulling problems today. Tell me just how much land you have to clear. I'll tell you how to get stumps out for the least money. The stump puller that **will save you money** and **do the work faster and safer** is the puller you want. A card from you today brings my special low price, the most remarkable stump puller offer ever made—all facts and proof, with full particulars also information regarding **Hercules Hand-Power Machine with 120,000 lbs. pull.** My book contains a fund of practical, useful information. Write for it today. B. A. Fuller, Pres. **HERCULES MFG. CO., 5725th St., Centerville, Ia.**

animals confined. I think this is a little overdrawn, however, and would say one square foot of outgo space for each eight or ten head of matured animals. These outgoes should, if possible, be kept away from the outside of the barn. It is better to let them pass up thru the center, where the hay will keep the cold air away. The outgo should terminate at the highest point on the barn to do the best work. If one is compelled to let it run against the outside wall he should make it separate from the barn, and not depend on the barn forming one side of the outtake.

Now if we have a constant stream of air going out we must have some intakes to replace it. These should be well distributed, so as to hold the temperature of the barn. They should be of much less capacity than the outgoes, as there is always some cold air working in around doors and windows. Ordinarily from two to six pieces of galvanized piping four inches in diameter will suffice. They ought to come from the outside, over the sill inside, and then turn upward and terminate near the ceiling. This will let the cold pure air mix with the warm air above in the room.

If it came in direct near the ceiling much warm pure air would rush out, but by coming in above the sill, and then turning upward, this loss is avoided. Care should be exercised in getting these intakes well and evenly distributed.

WINTER DAIRYING

Generally dairying in winter pays better than at any other season. This is due to the fact that butter and milk are scarcer during that season, and consequently brings better prices. During the winter one has more time to devote to dairying, and is able to obtain more and better help.

Some may come back at me with the argument that feed is much higher during the winter. To a certain extent this is true, but the difference is not so great as would be supposed. The true dairy farmer will have a silo, and will raise almost all of the feed needed for winter feeding, thus keeping all the fertility on his farm, instead of selling it off as grain and hay. It is true that some extra concentrates must be bought in any event, but the extra price in the winter can be overcome largely by laying in a good supply of these feeds when their price is not so high.

Then, too, if one will breed his cows to freshen in the fall, he will get a much better and more economical flow of milk than by having the cows freshen in the spring. If they freshen in the fall they will go thru the winter on their fresh period, thus giving more milk when it is at its highest price, and when spring comes, with green forage, the cows will again increase in milk almost as much as when coming fresh.

In the winter one also has more time to devote to raising the calves which should be ready for pasture by spring, whereas, if they were dropped in the spring, they would have to be cared for a whole season before being large enough to go on pasture. The calf proposition is one not to be neglected, as a good dairy cow cannot be expected unless the heifer is well taken care of when young.

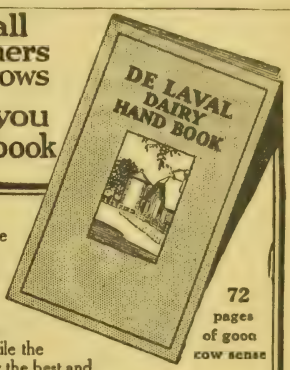
BUYING DAIRY FEEDS

Those who are well supplied with alfalfa, or clover hay and corn silage, will not have to buy very much millfeed. Those who depend upon such feeds as corn and grass hay are the ones who will be forced to purchase the largest quantity of mill products. If they would have a balanced ration they must buy their protein.

In making their selection they must purchase (if they are going to make their purchase scientifically), the concentrated feeds that give them the largest quantity of protein at the least cost per pound. The guaranteed analysis of a food is an important guide not to be ignored. Successful dairymen have learned that between corn and cottonseed meal they get more milk from the cottonseed meal than from the corn, altho in a ton of both there are 2,000 pounds. They know, however, that in a ton of corn there are but 150 pounds of digestible protein, while in the cot-

FREE to all owners of cows

If you keep cows you ought to write for this book



72 pages of good cow sense

THIS book was written for the man with only two cows just as much as for the man with twenty. In it has been gathered together a great fund of valuable information on subjects which are of vital interest to every cow owner. And while the various phases of dairying are treated by the best and highest authorities, it is not a technical treatise but is written in plain every-day language so that even the children can understand it.

Here are just a few topics that will give you an idea of the practical nature of its contents:

"How a Dairyman Made Good"—a real story of a real farmer, who starting with almost nothing, built up a fine dairy herd and made a big success.

"Year Around Feeding of Dairy Cows"—by an authority whose advice is well worth heeding. The importance of proper feeding deserves more attention from every cow owner.

"How to Judge a Dairy Cow."—shows by illustrations what points to look for in a dairy producer—explains the essential qualifications of a good dairy cow.

"Building Up a Dairy Herd"—a practical breeder gives some sound advice on this important subject.

"The Farm that Won't Wear Out"—shows that the farm where cows are kept, and the fertility returned to the soil, improves instead of deteriorates.

"The Care of Cream on the Farm"—quality is as important as quantity. It costs little and brings big returns.

"Silos and Silage"—one of the best chapters in the book. Full of silage facts that every farmer ought to know.

Then there are splendid articles on "Alfalfa," "Ventilation of Dairy Barns," "Breeds of Dairy Cattle," "Improving the Herd with a Good Bull," "Care of Freshening Cows," "How to Test Cows," etc. Numerous dairy rations, suitable for various sections of the country, are given, and various milk and dairy tables as well as tables of weights and measures, silo capacities, etc. that every farmer has occasion, at some time or other, to refer to.

Thousands of dollars have been spent in the preparation of this book, and if you keep cows you certainly ought to write for a copy and read it from cover to cover. The book is absolutely free. Just fill out the coupon or send the information requested on a post card, mentioning this paper.

The De Laval Separator Co., 165 Broadway, New York

Please mail me, postage free, a copy of your New Dairy Handbook. I keep_____cows I sell cream, make butter, sell milk (*cross out whichever you don't do*). The make of my

Separator is_____, used_____years

Name_____

Town_____ State_____ RFD_____

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You can now get one of these splendid money-making, labor-saving machines on a plan whereby it will earn its own cost and more before you pay. You won't feel the cost at all.

$24 BUYS THE NEW BUTTERFLY

No. 2 Junior—a light running, easy cleaning, close skimming, durable, lifetime guaranteed separator. Skims 95 quarts per hour. We also make four other sizes up to our big 600 lb. capacity machine shown here—all sold at similar low prices and on our liberal terms of only $2 down and a year to pay.

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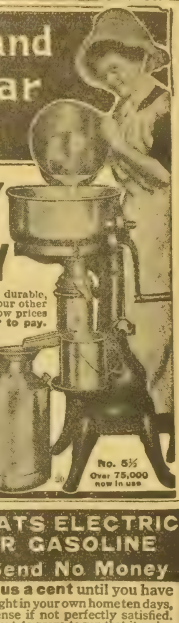

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tonseed meal there are 75 pounds of protein, or five times as much as in the corn. The corn may be the cheaper per ton, but the question is, what is the relative cost of the protein? The buyer of dairy feeds should consider his purchase in this light.

There is considerable variation in the cost of feeds. Between some there is a difference of but $3 to $4 a ton, while in others there is a difference of $10 to $15 per ton, and sometimes the feed selling at a lower price contains more protein than another feed at a higher cost. If the buyer will make a list of the foods that are available to him, and will get the cost per ton of each, and then from the analysis ascertain the number of pounds of protein that each contains, he will be able to determine pretty accurately what each pound of protein in each feeding stuff costs.

Of course, this method of reckoning ignores the carbohydrates and fats contained in the feeding stuffs. The purchaser of feeds who has a shortage of the fats and carbohydrates will take into consideration the quantity of these materials contained in the feeding stuffs purchased. In buying feeds one will find most available the highly concentrated advertised goods everywhere, the gluten feeds and meals, cottonseed meal and several others equally well known. And these, when figured on the basis of variety and cost per pound of protein, will meet his needs. Purchased in this manner the selection will be made intelligently, and ought to give in return an increased production of milk and butter, and also greater fertility to the land, because of the manure now rich in nitrogen that will come from the organized protein.

CLEANING THE DAIRY BARN

There is no time of the year that demands a more thoro cleaning up of the dairy barn than does the fall, when the cows are brought in from the pasture fields. Scourges, such as tuberculosis and contagious abortion, greatly reduce the profits of the dairy business. The germ life which causes most of these troubles are harbored in the dust, cobwebs, cracks and crevices about the barns. A cleanup day is in order at this season of the year.

There are two stages in thoro cleaning and disinfecting. First, all refuse and debris should be cleaned out, cobwebs and dust brought down, floors scraped, and all litter removed. Unless this be done first, fluids or liquids which carry the destroying agents into the cracks and crevices where the disease germs may be lurking will not strike the mark. The second stage of the operation consists in using a preparation that is a thoro disinfecting agent, and applying it successfully. I usually use one of the standard disinfectants that are on the market.

Whitewash is useful in two ways—it may act as a medium to convey a disinfectant, and it also has disinfecting and purifying properties. Barns which are not painted would probably look better after a good application of whitewash, and by putting in it a five per cent solution of crude carbolic acid, or a two per cent solution of cresol, would be an effective disinfectant, but there are other coal-tar products, such

as a cheap creolin, which may be used with quite as good results. These preparations may be applied with a large brush, but this is rather a slow process when the whole barn is to be gone over. Most farms nowadays have some sort of spraying apparatus, but if one has no sprayer there is surely one in the neighborhood that may be borrowed for the purpose.

Where whitewash is being used, strain the preparation thru a fine sieve, and apply with the hose, using as much force as possible. Cover every spot, and get the liquid into every crack and crevice. After the operation is completed, wash out the mangers and feed boxes. Sunlight is a great disinfecting agent. It is the cheapest one of all. Every dairy barn ought to have an abundance of fresh air and sunlight.

COOPERATING WITH THE COW

To obtain the greatest amount of milk a cow is capable of producing, she and her caretaker must know each other well. They must work together. They must be on good terms, and there must be a bond of sympathetic confidence established between the two. The milking, feeding and general management must not be entrusted to anyone but a person who is known to know his business. He cannot be too well skilled as a milker.

The cow is a sensitive creature, and requires to be handled in a very gentle manner, and no portion of her body is as sensitive as the udder. A gentle and sympathetic milker will draw the milk rapidly from the udder without injuring that delicate organ, and yet get every drop the cow is able to produce. It is a great relief to the cow to have her over-distended udder relieved of the milk that is in it. How often have we stood in front of a cow being milked by a skilled and gentle milker and seen the look of content come in her eyes. With half-shut eyes and a dreamy look she gladly yields the lacteal fluid we ask from her. She is prepared to do her part by man, and asks in return that man do his part by her by drawing the milk quickly, but gently, not by unnecessary tugging at the teats, but by gentle, rapid pressure with a downward movement of the fingers.

In feeding and handling, much loss often occurs from lack of appreciation of the wants and needs of each individual cow in the herd. A proper ration may be compounded, but the duty of the feeder does not end there. It is folly to say that the cow can always be fed in proportion to her weight, or that all cows will do equally well on a similar ration. Each cow has her own individual power of assimilation and taste, both of which we must consider and satisfy to obtain best results. These will vary even when cows have all been bred and reared on the same farm. Nevertheless, what will best suit the appetites and will be best assimilated by the cows is largely a matter of training.

Daily brushing with a good stiff brush is healthful and beneficial to the cow. She should not be exposed to inclement weather without proper protection or shelter. Her quarters ought to be kept neat and clean at all times, and plenty of suitable bedding provided. Never should she be hurried in any instance, and at no time should excitement have its ill-effect upon her. Kind treatment to which she readily responds counts for much in her well doing. When managed as here indicated, a herd of good dairy cows makes one of the best and most profitable bank accounts a man can tie to.

Farm Development

(Continued from Page 6)

ment at a fixed amount, and sell all his property at one time and to one person. This presupposes that the farmer is abandoning the business permanently. Of course where he is going to purchase another place for development purposes it will pay him to keep his stock and machinery.

To make a success of the farm-development game it is very essential that the operator be thoroly familiar with the conditions under which he is working. He will do best in his home community, where he knows soil and climatic conditions, as well as the financial condition of the neighboring farmers. Ordinarily it is the man who attempts to bring back farms to a wage-earning condition, in a section of the country where he is a total stranger, that fails in the business. This work is also a matter of concentration of both capital and personal energy. The sooner the owner can dress his farm for ready sale the quicker he will reap dividends from his investment.

From personal inspection and study of many of the sections that boast of cheap lands I find that on the average the farm-development proposition is a much more profitable work than that of actual farming, where rapid financial results are the goals sought. Where total investment and interest on the investment are taken into consideration—as they should be in figuring net incomes—the farmer on the so-called cheap lands will not be on his feet much before the third or fourth year after he occupies the land. In one way or another he will have to build up his soil; he will have to improve his buildings; he will have to purchase additional stock or machinery to such an extent that the rather meager income of the first few years will be spent before it is made. On the other hand, the experienced farmer may improve his farm so that he can realize a handsome profit from the place if he sells it the second or third year.

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Hunting and Trapping Department for FARM NEWS Boys—Equipment for Hunting and Trapping

By C. H. Chesley

THE man or boy who wishes to make a success of trapping should first secure the proper equipment. This does not necessarily mean a lot of expensive traps and guns, but it means as many traps as can be properly set and attended to, as well as a few other things. The trapper of today, at least the one who traps in settled communities, commonly uses steel traps rather than the primitive deadfalls and other devices of our fathers. Such methods may do well enough where fur-bearers are plentiful, or in remote regions, where it means a long trip by dog-team or canoe to get the traps to the trapping grounds.

There are several makes of trap that answer the purpose of the trapper, be he amateur or professional. Of these the Victor line is one of the cheapest in price, and at the same time it is reliable. The celebrated Newhouse traps may also be depended upon to answer all purposes. The first question to decide is about how many traps of each size can be set to advantage. Having looked over the trapping grounds, as was advised last month, decide how many traps will be put out for muskrat and mink. It is a good plan to use the same size trap for these two animals, as the muskrat traps, properly set, are almost sure to take an occasional mink.

The No. 1 trap is primarily a muskrat trap, but it will usually hold a mink, if one happens to get caught. We believe, however, it is better to use a trap one-half size larger, and then there will be no question. Most trappers, therefore, use the No. 1 1-2 for both these animals, also for the skunk and weasel, as well as for the civet cat and swift fox of western states. Perhaps more furs are taken in this size trap than in any other. For raccoon, fox, badger, opossum, and other animals of similar size, No. 2 traps are commonly used. For still stronger creatures, like the otter, prairie wolf, brush wolf, and wildcat, Nos. 3 and 4 answer the purpose. The latter size will hold almost anything, from the size of the timber wolf and Canada lynx down. The average trapper in the central states will find very little use for these large traps. One or two in the wilder regions can be used to advantage, perhaps, to set for prairie wolves or otters. The latter animal is frequently caught in the unsettled parts of the southern states, while the former is more or less common west of the Mississippi river. The same trap is usually set for raccoon and opossum, as these creatures require similar conditions. All sizes below No. 2 are one-spring traps. Larger sizes have two springs.

Tree traps are used to advantage for raccoon, opossum, mink, and other animals that climb trees. The sizes of these traps run about the same of those already described. These traps are fastened to the tree, either trunk or large limb, the bait is placed in position and so arranged that the creature is usually captured about the neck and quickly killed. Another line of lightweight traps are the so-called Stop Thief wire traps. These are adapted to animals not larger or stronger than the raccoon.

While it is true that steel traps are most commonly used, it may be of interest to add a few paragraphs in regard to other devices. The deadfall may be used for foxes, wildcats, raccoons and such animals. Of course it must be constructed with a considerable degree of cunning and skill. If

one wishes to use this method it is a good plan to set one or more steel traps about the bait, for some animals are much too wary to be caught in such an obvious work of the hand of man. For this reason, it is a good plan to construct the deadfall, place the bait in position and then set the steel traps. The animal is pretty sure to walk around the trap for a few minutes before attempting to get the bait. In doing this he is quite likely to step into one of the concealed steel traps. Log traps for skunks and civet cats are effective, as these animals are not at all suspicious of disturbed surroundings. Such devices are not economical, for the reason that it requires considerable time to construct them, and they are not readily removed.

Box traps are used when it is desirable to capture the animals alive. Some animals enter these boxes unsuspiciously, while others do not. The snare is useful in runways where it is known that the creatures pass frequently. It is also employed close to large trees. The snare should be attached to a stout spring pole for the purpose of lifting the captured animal out of the way of other prowlers. The spring pole can also be used effectively in lifting small animals caught in steel traps.

Having decided as to the number and style of traps to use, there are a few other things that come in handy for the amateur trapper. A small rifle is a handy weapon for killing the captured animals. The shotgun should never be used for this purpose as the shot make too many holes in the pelt. Some trappers always carry a shotgun on their expeditions, as game birds and animals are frequently seen. If the shotgun is carried, it is, of course, not convenient to carry the rifle also. A good pistol of small calibre will take the place of the rifle, and may be carried in the pocket. One should practice with this firearm until he can shoot fairly accurate with it. A bicycle is of use in visiting traps set at a distance from home.

New traps should not be set out until they have been colored in some way so they will be the least conspicuous. Some trappers wire the traps together and plunge them in a soft oozy swamp of black mud. In such a place they will become sufficiently blackened in a week or ten days. Another method is to boil the traps in water which contains something like spruce or hemlock boughs or walnut husks. The water should be at the boiling point, the traps dipped in for a few minutes, and then allowed to dry. New traps treated in this way take on an aged appearance, and are much less noticeable to the animals. It is well to look over all new traps very carefully, and set the trap and spring it a few times to make sure it works well before putting it out. Old traps should be scoured with emery paper to take off the rust, after which they should be boiled, like the new ones.

A whole chapter might be written on the subject of scents. To properly prepare them requires a considerable degree of experience and skill but there are certain scents that even the amateur can get and use without much trouble. We might add, also, that there are certain prepared scents and attractors that appear to answer the purpose of the average trapper. Such bottled scents are advertised in this and other papers. So-called trapper's secrets are really nothing more or less than certain oils and other materials. The "secret" in the matter is knowing how to use them to produce the best results. Fish oil is one of the easiest baits to make and it is always useful.

Musk glands, taken from such animals as the muskrat, mink and skunk, are used to attract the various kinds of animals. Successful fox trappers think highly of skunk scent. Skunk carcasses, no matter how strongly scented, are indeed one of the best lures for sly Reynard. Trappers should save everything of this sort that is obtainable from the bodies of the animals.

It is noticeable that nearly all creatures are attracted by strong odors, hence successful trappers prepare their scents with this fact in mind. The basis of nearly all attractors is some animal scent. With this is mixed some artificial oil, like asafedita, anise, rhodium, fenugreek or lavender. Each trapper seems to have his own recipe. By following the business a number of years, keeping the eyes open for new things and observing carefully what scents and methods are most successful, almost anyone can become an expert trapper.

UNIVERSITY OFFERS COLLEGE TRAINING TO COUNTRY BOYS

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The University campus and farm now contain 650 acres and 42 buildings, the greater part of which is devoted to practical teaching and training along agricultural lines. Forty horses, ninety cattle, one hundred hogs and one hundred and twenty-five sheep are used by agricultural students for judging purposes. Students in the dairy course produced 70,000 quarts of standardized milk and 34,000 pounds of butter last year.

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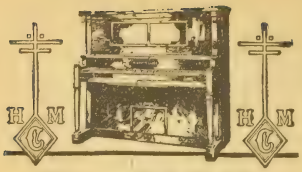

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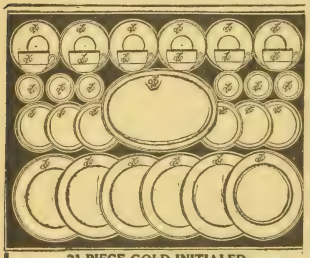

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Soups--Salads--Sauces--Sandwiches

General Principles and Courage to Experiment Will Give Variety to Average Farm Menu

By Eva Ryman-Gaillard

IN schools of earlier times the "Three R's"—readin', 'ritin' and 'rithmetic—were considered the necessary base of a good education, and, in fact, almost a complete education of themselves, and in the education of a modern cook the "Four S's" as represented by soups, sauces, salads and sandwiches seem to hold an equally important place. With a knowledge of the general principles involved in making these four classes of foods, and the courage to experiment instead of following exactly a given recipe, the most delicious meals, or luncheons, may be prepared with the least possible expenditure of time, strength and money.

SOUPS

First consideration is given to soups, because in one form or another they should form the first course of the family dinner. Some housewives sniff at the idea, and speak of the practice as "putting on style" when, in truth, it is an economy of materials and time as well as a health measure that will benefit every member of the family—"style" being a secondary consideration.

If there is a person living who should eat a dish of hot soup at the beginning of a dinner it is the farmer, or his helpers, who comes to the table tired almost to the point of exhaustion, chilled thru and thru, or overheated, for when in either condition the stomach is not ready to receive heavy food. The hot soup warms and prepares it for the work of digestion by starting the flow of gastric juices, and during the few moments spent in eating it the entire body has recovered something of its normal condition.

Very little extra work is involved in the service, as the best and most up-to-date manner of serving is in large cups or small bowls which are filled from the kettle, and enough for a small family may be brought to the table on a tray, and removed in the same way. The only thing needed with it is a plate of crackers, toasted or plain bread. The soup served in this way does, undeniably, give the little touch of "good form" to a dinner that is a satisfaction to all the family, even tho the menfolks may deny it. Good form is merely conforming to sensible customs of sensible people, and is worth while if only that children may become accustomed in their home to what they will have to conform to in other places, where formal customs are adhered to.

As this article deals with general principles of soup-making, rather than with special varieties, its province is to tell how to make the various classes and secure the best results in the easiest and most economical ways. The first requisite being a kettle, it may be said here, that for a quickly made soup, to be used immediately, an iron kettle is as good as any, but when the "soup-pot" is always in use, as it should be, one of Romafin clay is first choice, tho a porcelain lined, or agate kettle, with close-fitting cover, will meet the need for something in which the stock may stand from day to day.

If meat is being cooked expressly for the purpose of securing soup stock, it should always be put into cold water, and soft water is better than hard. Bring to boiling heat gradually, and skim off any scum that rises.

To show the value of planning the work ahead I will outline the method I often follow: Get a large beef soup-bone and have it well broken. Wash thoroly and put into cold water; bring to boiling heat and simmer until the meat is tender, keeping plenty of water in the kettle. This gives the "stock" that furnishes the base of numberless varieties of soup, and in this form it may be kept where it will freeze slightly and be ready at any time.

One day take enough of this clear stock for two dinners; add any vegetables liked; season highly, and after it has cooked for a while, take out enough of the stock for one dinner and set aside. Finish cooking the vegetable soup for dinner, and the second day merely heat the flavored stock saved out. This is exactly the same thing as the beef bouillon (bool-yon) served by famous chefs. A third soup is quickly made by bringing some of the stock to boiling point and dropping in a few noodles, or sticks of vermicelli. This carries the subject far enough to show the economy of time in making a large amount of stock at one time.

If the stock is from chicken or other white meat, the flavored stock would be called consomme (kon-so-may) according to the ruling of French cooks who do not use the terms bouillon and consomme interchangeably, as we frequently hear done by Americans.

For any clear soup the best results are obtained by making it in advance, so that it may allow to cool and have the fat removed. If this is not possible, and there seems to be too much fat, draw a coarse brown paper or blotting paper, across the top, and it will absorb it. If something extra clear and fine is wanted clarify the soup by the following method: Mix the shell and white of an egg with a spoonful of cold water for each quart of soup. Put this in the saucepan and pour the cold stock over it. Bring to boiling heat very slowly, and the egg will come to the surface, bringing every particle of blood or other element of cloudiness with it. Boil slowly until perfectly clear below this scum; remove the scum with a skimmer and pour the soup through a coarse cloth.

The French housewife is, beyond question, the finest soup-maker in the world, and this is her method: The stock-pot is always on the stove, and into it she puts every scrap of meat of any kind, raw or cooked, which is not used in other ways, as well as the water in which meat or fowls have been cooked. This pot stands where it

cooks very slowly, and extracts every particle of strength and flavor from what goes into it, and about twice a week the stock is strained off, seasoned and set aside ready for use, with only the work of reheating.

This stock furnishes not only the clear soups, but forms the base of many sauces and gravies where certain flavors would be objectionable, so the housewife keeps a second one going, into which meats of all kinds and every bit of vegetable left when preparing meals, bits of herbs and other things are put as they accumulate. The contents of this pot needs only straining to be ready to serve.

Many a good stock is spoiled by over-seasoning. The secret of flavoring lies in its being delicate enough to leave one the pleasure of deciding just what the flavor is—and it should be a perfectly blended combination, with no one strongly predominating.

Among "soupes maigre," or meatless soups, there are many forms of purees made by cooking vegetables until they may be mashed smooth, or put thru a sieve, and then thinned to a creamy consistency with milk and seasoned with salt, pepper and butter. The Turks make a vegetable soup, as nourishing as one containing meat, by this method: Dice as many varieties of vegetables as desired—or as may be at hand—and fry brown in olive oil. Then cover with cold water and cook for several hours. Strained and used clear this broth is delicious but to make it more nourishing they add rice or barley to the strained broth and cook until very tender.

With these general principles understood there is little need of special recipes, for many times the soup made of something never before used as soup-material, just because it happens to be at hand, will give results far superior to the things commonly used, and the one who dares to take the initiative in their use has gone far toward solving the problem of economy in the use of food stuffs.

FLOWERING BULBS FOR WINTER USE

September is the time to put in a crop of bulbs for adding cheer and beauty to the home during the winter months. Bulbs of hyacinth, tulip, and narcissus are most commonly used.

The blubs are put in pots or boxes in a good rich soil, placing them firmly and covering so that the tip of the bulb just shows thru. The pot or box should not be filled to nearer than one-half or three-quarters of an inch from the top. The pots are then thoroly watered and plunged in soil, covering them completely, in order that they may be kept cool. This gives the roots a chance to develop.

During severe weather, sufficient covering should be given to prevent freezing. From along the latter part of November until well into January and February the plants may be brought inside as wanted, and kept in a cool temperature to start with in order to accustom them to their new conditions. They may be expected to flower in four to six weeks after being brought into the house.

After flowering, the blubs are of no value for forcing again, but may be planted outside in the borders about the house and will continue for some years to furnish bloom.

HOW TO KEEP YOUR FLOWER BULBS THRU WINTER

Cannas, dahlias and gladiolas are all classed as tender perennials, that is, plants that live and bloom year after year but are not able to withstand the cold winters. Freezing of the root or bulb destroys them. These plants may be allowed to grow until the first heavy frost comes, killing the crops.

For cannas and dahlias the tops should be removed for about six inches from the roots, the roots dug, and the loose soil shaken out. They may be allowed to dry a few hours in the sun and then placed in permament storage. To keep perfectly, they should be cool and dry. Any place in which potatoes will keep will be ideal for them.

For gladiolas it is not necessary to wait for a frost which kills the crops. Just as soon as the crops are dry the plants may be dug and allowed to lay in the sun to cure for a few days. When the stalk is dry, it should be cut off to within an inch of the corm. The thoroly dry corms are then placed in flat trays anywhere out of the reach of frost. The same place that cannas and dahlias are stored will be satisfactory,

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Money in Broilers

Last Year's Experience Has Brought About Greater Preparation For the Coming Season

By Mrs. R. B. Rushing

LAST year I summed up the courage to purchase a 110-egg incubator. Some of my neighbors had the idea that incubators might hatch chicks, but about 75 per cent of them died before they were ten days old. I think I convinced them against this notion, for I never had thriftier chick- and didn't lose one from disease. My love for incubators has increased to the extent that I have already installed a 175-egg incubator and brooder, to be ready to raise broilers right next year.

I didn't get my machine last year until late, but got a nice hatch off the last of March. I sold these at twenty-five cents per pound when they weighed one and one-half pounds, but would have gotten thirty-seven and one-half cents per pound had they weighed two pounds and over. My idea this year is to set the incubators in December, and keep them going till some time in May. Some will wonder what we are going to do with so many chickens at this time of the year. We are already making provisions for taking care of them.

Two upstairs rooms are going to take the place of a brooder-house. We are using them this time for economy's sake, and plan to build a brooder-house later on. These have matched floors; are ceiled and papered and real warm. There are windows on the south and west for sunshine and ventilation. A small air-tight heater is to be installed, so the biddies may come out in the room and exercise, even tho the weather is bitter cold on the outside. We will keep the floors of both the brooder and room covered lightly with sand and then with litter to make it easily cleaned. Nothing but purebred Rhode Island Red eggs will be set, as we have our heart set on this breed, and a bunch of broilers all alike will bring a better price than a mixed lot.

When the chicks are taken from the incubator in cold weather there is danger of chilling, if they are not carefully looked after. I remove them to a warm lined basket, and keep it in a moderately warm place until they are put in the brooder. The brooder must be warm thruout, before the baby chicks are put in.

The little chicks should not be fed for thirty-six hours at least, and then fed sparingly for a few meals. I feed hard-boiled eggs, stale breadcrumbs and rolled oats the first week. They are fed five times daily until they are three weeks old, then they are fed only three times daily. I keep litter in their brooder to furnish them employment, but don't think it best to confine them in the brooder very long at a time, as they get restless and long for more freedom.

When the incubators hatch the second time, we will remove the first chicks from the brooder and place them in a "fireless" brooder at night, and a portion of the room will be partitioned off for their run in daytime. We firmly believe that it is just as possible to raise five or six hundred chickens that will bring thirty-five to forty cents per pound, as it is to raise a dozen, if common-sense methods are used in handling them.

ASHES AND HEN MANURE

When air-dry, hen manure should contain about 40 pounds of nitrogen, 40 pounds of phosphoric acid and 20 pounds of potash in the ton. Fresh manure from fattening cattle should contain 15 pounds of nitrogen, 8 pounds of phosphoric acid and 10 pounds of potash per ton, while as a general average, mixed barnyard manure, after exposure to the weather in open yards, is estimated to contain 10 pounds nitrogen, 6 pounds phosphoric acid and 10 pounds potash to the ton. A ton of dry hen manure is therefore worth approximately as much as four tons of average yard manure.

Many persons propose to mix ashes with hen manure, but no material containing lime, in the form in which it is contained in ashes, should be mixed with moist manure, as the lime will cause the liberation of a considerable part of the nitrogen in the manure, and it will escape as ammonia gas. Ashes and dry hen manure may be mixed immediately before applying the manure, as the ammonia will mostly be absorbed and held by the soil.

The proper material to mix with manure is acid phosphate, as this serves to fix the ammonia, instead of liberating it, and also re-enforces the manure with phosphorus,

Acid phosphate, sprinkled over the dropping boards, will reduce the loss of ammonia and increase the effectiveness of the manure. A mixture of 250 pounds dry hen manure, 150 pounds acid phosphate and 100 pounds unleached hardwood ashes will contain practically the same quantities of ammonia, phosphoric acid and potash as would be carried in 300 pounds of a 2-10-2 fertilizer.

By using a sand sieve and a wooden pestle to pulverize the manure such a mixture may be applied with the ordinary fertilizer drill, and if the ashes are not added until within a few days of the application, there will be no appreciable loss of ammonia.

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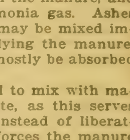

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THE CHILDREN ON THE FARM

By Mary Ann Throp

Ever notice how the little people take advantage of every opportunity to have fun? How they work and struggle to make the old box sled glide down a wornout bit of snow; how they toil ceaselessly in the business of playing; how they take chances in catching on the back of a wagon, in order to have a moment's pleasure?

They do not give up. Driven from behind one wagon they wait patiently for another. The sled refusing to glide this time, they try it over and over again. They are not turned from their course by a puddle of water, not driven to despair because there is a fence between them and where they want to be.

It is not all fun, either. For who has not seen the small boy or girl dying en the grass, lazily watching the movements of an ant or beetle, or turning over boards and stones to find the hidden treasure of snail or worm? Is it all for the mere fun of it? Is it not rather the curiosity of an active mind inquiring after the reason of things?

Why not learn to understand the child mind? Why not answer the questions asked? It is unfortunate for all of us that we allow the enthusiasm, the inquisitiveness and the fun-loving zest of youth to die within us. It is a grievious sin against ourselves that we give up the struggle to have fun, or the desire to become interested in childish things.

The matter of development of the child's instincts is a means of self-preservation, a storing up of a fund of physical and mental health that none can draw from or diminish.

Not the dressed-up dolls in town, but these inquisitive, fun-loving little urchins in the country, the children on the farm, are the ones worth while. Yes, they are the real sensible people of the world—these little folks.

October Puzzlewits

Prize Offers

Best list of answers to this months puzzles, $1.00. Second best list, a book. A record of all other answers is kept, and 25 correct answers win a book. Each puzzle published counts three points to the author. A prize worth 50c for best new puzzle received this month. A prize worth 50c for best answer to puzzle No. 1. Send answers before October 28th to Uncle George, Farm News, Springfield, Ohio.

October Puzzles

I. Hunting Boys and Girls Names.

How many boys' and girls' names can you form from the letters in Farm News, Springfield, Ohio, such as Ora, Edna, Lewis, Homer, etc? Do not use the same letter twice in the same name.

II. Jumbled State Capitals.

1. Kopeat. 2. Leaneh. 3. Nocsajk. 4. Limpaoy. 5. Gislann. 6. Tanasef. 7. Garsirubrh. 8. Lucumsob.

Beech Creek, Pa. L. C.

III. Numerical

My 1-2-3-4 mother uses when I'm bad. My 5-6-7-8 is a word denoting poverty. My 9-10-11-12 is a boy's name. My 1 to 12 is the name of a bird.

Geldes, S. D. Mildred B.

IV. Double Linkade

In African, Asiatic and American wilds
ONE covers areas for thousands of miles.
At SECOND the day is nearly gone
And night is speedily coming on.
LAST denotes a State of great renown
Where the Indian's war whoop oft did resound.
WHOLE a flourishing town in the Buckeye State;
It's growth was started at an early date.

Petersburg, Mich. Horatio.

V. Anagram

ADHERE T' SAVE LIPS.

Wilmington, Del. Flora.

Answers to July Puzzles

I. Orange, range.

II. Fat, fan, fame, fear, an, anew, answer, ran, ram, reaf, me, man, mane, mew, mean, new, near, name, ear, era, earn, en, was, warm, wear, wan, same, sear, snare and over 100 others.

III. Sapolio, Old Dutch Cleanser, Merry War Lye, Pearline, Gold Dust.

IV. Pennyroyal.

V. Potato, onion, tomato, radish, pea, bean, beet.

July Prize Winners

First Prize: Mrs. E. W. Gilles, Minneapolis, Minn.

Second Prize: Mary A. Follett, New Berg, Ore.

Youngest Solver, aged 7: Armintha Turney, Carthage, N. Y.

182 lists of answers were received to July Puzzlewits. Over 50 sent lists worthy of honorable mention, but space forbids their publication. Uncle Geo. wishes he was as rich as Rockefeller so he could send you all a prize.

Joel H. Pile of Washington D. C., wins the prize for best answer to No. II with a list of 154 words.

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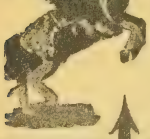

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Pony and Complete Outfit to Be Given Away

To some deserving boy or girl who writes me at once, I will give this pretty Shetland Pony, "Pepper" and complete outfit of rubber tired Pony carriage, silver-mounted harness, saddle and bridle ABSOLUTELY FREE and without one cent of cost. "Pepper" is the sweetest, cutest and most lovable pony you ever saw and he can haul a whole carriage load of people at a merry gait.

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Send me your name and address quickly, AT ONCE, so I can send you a big picture of "Pepper" and tell you all about my new, easy plan for giving away Ponies and Outfits to my boy and girl friends. There are no losers—every one gets a prize for everything they do. Solve the puzzle above. The letters in the six squares when properly put together spell a word mentioned four times in this advertisement. Send me your name and address with your solution to the puzzle and I will give you 5,000 FREE VOTES toward winning "Pepper" and Outfit. I will also tell you how to get dozens of other fine prizes free. Hurry—write me today, QUICKLY.

Matt Young, the Pony Man, Dept. O, Springfield, Ohio

Methods With Mushrooms

Not a Get-Rich-Quick Game, But One Which Will Yield Satisfactory Profit

By Charles H. Chesley

ALMOST anyone who has a cellar can raise mushrooms, provided he will observe a few simple rules. This does not mean that everybody can make a fortune in the business. On the contrary, we do not believe there is much money growing them unless one has a special pit or cellar particularly fitted to their needs. Mushrooms, however, are desirable for home use, and there is no reason why those who wish to should not grow them in a limited way.

The average farm gardener does not have much time to spare for trying out new things, but mushrooms are grown at a time of year when other gardening is not very brisk. In fact, but little work is required to take care of the bed, once it is properly started. Mushroom beds often fail to produce anything, and the cause may generally be found in poor spawn or improper conditions. It pays, therefore, to start right.

No use to try to grow them unless your cellar is of about the right temperature. It is considered that mushrooms will grow in a temperature ranging from forty-five to sixty-five degrees, and this includes almost all cellars. The best results, however, are obtained in about fifty-five degrees or not far from that figure. First ascertain if your cellar is suited to the business. A bed containing forty square feet should produce a pound to the foot under ordinary conditions, and often considerably more than that. It will readily be seen that such a bed will prove an important factor in feeding the family during the period that the outdoor garden is frozen stiff.

The actual work of starting the bed begins with preparing the compost. Procure a sufficient quantity of fresh horse manure from the stable, the kind that is well mixed with straw. Be sure it is fresh. Old manure will not do. With the manure mix about one-fifth part of soil. Get the soil from under clean sod, where there is no manure of any kind. This is to make sure there are no spores of wild mushrooms and toadstools that might be poisonous. Mix the whole mass thoroly and leave it in a heap, covered so no rain can touch it for at least four weeks. Fork over the mass every two days to prevent complete fermentation. The material is now ready for the cellar bed. Prepare the bed by spreading successive layers of the compost and tamping it down solidly. Spread on two inches and pound it down with the back of a spade. Put on six layers of this thickness, making the bed about one foot in depth.

After the bed is prepared, stick the bulb of a thermometer into the mass and keep careful track of the temperature. At first the glass will probably register about one hundred degrees, but it will gradually drop, and when it is down to eighty-five, put in the spawn. Spawn usually comes in the form of a brick. Break up this brick into pieces about two inches square, and plant these pieces in the bed about three inches deep. Use a stick or small trowel to make the holes, and firm the compost over the spawn after it has been planted. Leave the bed as smooth as possible after the spawn has been put in. Do not disturb it again for two weeks. This is to allow the spawn to send out its thread-like growth.

It is now time to "case" the bed, as the process is called. This consists of putting on a covering of clean, well-screened loam an inch or two in depth. Let this "casing" be slightly moist. Until the mushrooms appear little water is needed. Put on just enough to keep the bed from becoming actually dry. When the mushrooms appear more water is needed, but the bed must not be kept wet, as this causes all sorts of trouble. Gather the growth daily, if there is sufficient for use, or at least every other day and do this as long as any mushrooms appear.

In picking be careful to take hold of the stem and twist it in such a way as will least disturb the soil. Fill all holes after gathering. When the bed ceases to produce, the compost is exhausted, and it is of no use to put in more spawn. A good bed should last two months or more.

FALL CARE OF SMALL FRUITS

The bush fruits need a little attention in the fall before winter comes on, if we would have them go thru the cold months successfully. Different localities require different treatment for the bushes. Raspberries and blackberries frequently suffer considerably if no precautions are taken. Winter-killing is perhaps the most frequent trouble with growing these berries but this may be largely overcome by resorting to mulching and laying down. A humid atmosphere causes more winter-killing than a dryer one. Likewise valley bottoms and moist lands are harder on the canes than the hillsides. Plantations on the hillsides, therefore, may require no protection, while those in a valley but a few miles distant would need the most careful attention.

If winterkilling is the trouble, the safest way to guard against it is by laying down the bushes. This is not difficult. In fact the practice can be carried farther than is generally supposed. There are successful peach-growers who lay down their trees every fall and cover them with earth and hay, taking them up in the spring, and every year gather a good crop of fruit as the result. Raspberry canes are flexible and can be covered without much trouble.

Two men, working together, can do the work rapidly. One, wearing heavy gloves, bends down the canes while the other shovels on sufficient soil to hold them in place. Usually a plow is run along each side of the row before the canes are bent down. When this is

done a small amount of soil is placed on the tips, and this is about all that is necessary. This holds the canes in place, and the snow covering affords ample protection. Canes should be bent toward the south when they are laid down.

Before laying down the raspberries the canes should be cut back. It is the usual custom of successful growers to cut back new canes to from three to five feet. This should be done after all growth has ceased, which will be in late October and November. It seems desirable to delay the cutting back as long as possible, and still have time to do the work and plow along the rows before the ground freezes. This plowing is not so advisable in moist situations, but on dryer ground it should be made a regular practice. It is also important on hillsides where washing and leaching is likely to occur.

Blackberry bushes can be laid down in the same way, but, as the canes are stouter and stiffer, it requires more work to attend to them. The bushes are more thorny than raspberries, hence extra thick gloves are needed when handling them. Straw and meadow hay are sometimes used to cover vines that have been laid down, after sufficient earth has been placed on the tips to weight them in place. As a rule, the blackberry will stand more cold than the raspberry. It is usually considered that both are hardy wherever the peach does well. While this is true, it is also true that these berries winterkill badly in some of the best peach-growing sections. We can only conclude from this fact that the humidity of the atmosphere has something to do with the damage. Mulching works well where alternate freezing and thawing is likely to occur. It also works well on wet soils, where roots are sometimes heaved out of the ground.

Currants and gooseberries scarcely need to be laid down, as they are very hardy, but mulching is advisable in some places. This is to prevent heaving more than anything else. If ground is dry, nothing need be done to these small fruits in the fall except to cut out canes more than three years old.

OCTOBER GARDENING NOTES

This is the month of harvest in the garden. Almost everything will be ready to take into the cellar or storage pit by the latter part of the month. Do not leave the vegetables out too long, at least do not let them freeze. Let them stay as long as they can without freezing.

Potatoes should be dug and stored in a cool place in the cellar. As a rule, the potato that is left in the ground until October is better than the one that is dug in September. Store potatoes in a dark place in the cellar, or cover them, to exclude light.

Gather and save all seeds that are worth saving. This ought to be done before the weather becomes too cold.

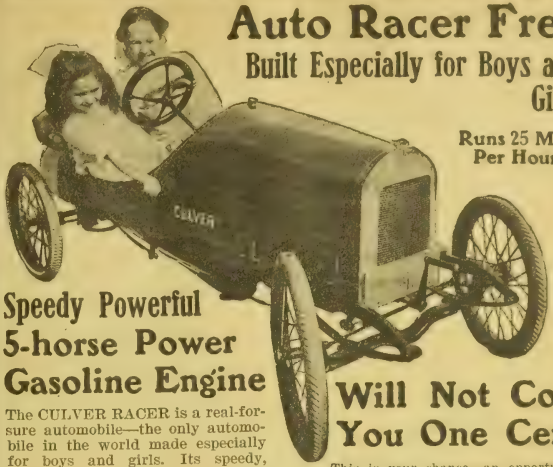
Cover some of the best heads of lettuce with frames. In this way they may be kept growing for another month or six weeks. Lettuce will stand considerable frost.

Pumpkins and squashes will not stand a hard freeze. Remove them from the field to a warm room in the

Auto Racer Free

Built Especially for Boys and Girls

Runs 25 Miles Per Hour



Speedy Powerful 5-horse Power Gasoline Engine

The CULVER RACER is a real-for-sure automobile—the only automobile in the world made especially for boys and girls. Its speedy, powerful 5 horse-power motor will take you anywhere you care to go at a speed up to 25 miles per hour, if you care to go that fast. Then, too, the CULVER RACER is a very economical machine to run, for it goes 60 miles to the gallon of gasoline. The CULVER RACER has Firestone, non-skid, 20x2 clincher tires with inner tubes; regular foot-pedal clutch; wire wheels; the machine has three speeds—high, low, and medium.

The engine is air cooled and is especially designed; substantial brakes; battery or set spark ignition with high grade magneto. It weighs 300 pounds; has completely equipped tool box; upholstering is of leather design, seat and back; has a two-gallon gasoline tank. The finish is a pretty, brilliant racing blue with black trimmings.

The RACER is so simple and easy to operate that you can learn to drive and master it in a few minutes. It is simple, yet well constructed even to the smallest detail and there are no complicated parts to be continually getting out of order.

The CULVER RACER looks like, and is built like, a big $2,000.00 racing car. It sure is a dandy. Just look at the picture below and you can see it has a regular gasoline propelled motor just like the big expensive cars. Wouldn't you be the happiest and proudest person on earth to win such a splendid and valuable prize?

Barry D. Hydon, The Racer Man
Dept. O, Springfield, Ohio

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This is your chance—an opportunity of a lifetime to own a regular motor driven automobile built especially for boys and girls. It will not cost you or your parents one cent. In addition I will give you dozens of other handsome prizes—the kind of presents all boys and girls want. All I ask you to do is to spend just a little of your spare time among neighbors and friends and do a little advertising for me.

Don't let anyone tell you that you can't win this dandy RACER and the dozens of other fine prizes—YOU CAN WIN and WILL WIN if you will write me at once and do as I say. I have given away thousands of dollars worth of grand prizes in the past few months and I'm going to continue doing so.

Write Me Quick

You really can't keep from winning if you write me at once. Don't lay down this magazine until you have signed and mailed the coupon. Get your share of this big prize distribution and don't let some other boy or girl get ahead of you. By mailing me the coupon at once you will get full information by return mail telling you exactly what to do in order to get this wonderful boys' and girls' automobile without it costing you one cent. Write me today—send me your name and address quickly on the coupon below.

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A peep under the hood

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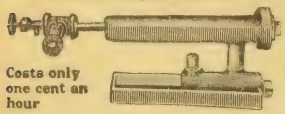


Costs only one cent an hour

Fits Any Stove

Cook Stove — Heater or Furnace

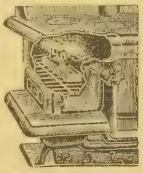
Makes a gas stove out of your old range or heater. May be used in the furnace. Easy to install—just shove it into the fire box. No trouble to operate or keep clean. Just supply it with fuel.

No Coal—No Dust—No Ashes Burns Just Like Gas

Cuts down on the housework. No kindling to cut—no coal to carry—no ashes to empty. Just a clean, gas-like flame. Quickly lighted. Extinguished instantly by the turn of a valve, just like gas. Necessary winter and summer.

ABSOLUTELY SAFE

Burns Kerosene (coal-oil.) Absolutely safe. Can't Explode. Do away with dangerous gasoline stoves. The Kerogas is better and altogether safe. Fire Prevention is better than Fire Insurance.



Showing Burner in Stove

Cooks a Meal for One Cent

The Kerogas pays for itself in a very short time in the money it will save. Costs less than a cent an hour to burn it. You can cook a big meal for one cent. Helps cut the high cost of living.

Aker Averaging 8 Sales Every Day

The Kerogas is a wonderful money-maker for agents. Aker averaging 8 sales a day, says he expects to sell a dozen a day when he gets fairly started. Carleton made $17.50 in a day and a half. M. G. Emanuel writes: "It's a wonder. I'll keep you busy filling orders." "Can sell 25 Burners right here in my locality."—Roy F. Mills. W. E. Aton sold 12 first day.

Mail blank below today for particulars and sample.

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The Thomas Manufacturing Co.,
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I am mailing this coupon for terms and agent's demonstrating sample.

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house. The attic is often a good place where they will keep all winter if stored near the chimney.

If garden seeds are to be grown next year, select the vegetables this fall and store them in a box of sand in the cellar. First, label each variety, that there may be no mistake next spring.

Pick some of the tomatoes that are well grown, but not ripe, and wrap them in tissue paper. Pack these carefully in crates, and set away in the coolest, darkest corner of the cellar. Sort these over about the middle of November, and remove any that have ripened. Those that are still green should be rewrapped and set away again. By looking them over every week and removing the ripe ones, some may be kept until Christmas. Be sure to pick the tomatoes before they have been injured by frost.

Pepper plants that still have green fruits on them may be pulled up, roots and all, and hung up in the cellar. The green peppers will ripen from time to time.

Commercial Canning of Fruit

(Continued from Page 8)

revenue producer. And it is here that the canning factory affords him an ample market for all stock he cares to market. The plants have their sorters and all fruit too undersized for the process is entered into cider stock, and if the farmer has a goodly amount of cider apples all he has to do is to haul them to the plant and sell them as such. Some plants operate their own cider plants, while others forward this kind of stock in carlots to general vinegar companies. The progressive packing plant also maintains a kiln drier, where all the skins, cores and scraps of apples are dried and sold as waste, thus none of the apple escapes once it gets inside the plant.

The advantages of having a canning factory within access to the farmer are so many that it is hard to understand why any community will go longer without this great outlet for all kinds of fruit. Then there is another side that should be mentioned, and that is the item of labor. It may not be plain to the farmer how this helps him; he may think it detracts in making a competitor for general labor, but the farmer is interested in building up the community in which he lives, whether he is fully aware of it or not. A plant that offers long and steady labor at good pay is a good thing for the community, and all having anything in common with the community is benefited, including the farmer.

In the Genesee Valley, of New York, the factories are given more to the packing of vegetables, and much the same story of success can there be told as has been stated of the lake district. Some plants pay spot cash for the produce, others pay one-half down and the balance in sixty days, but whatever the method of payment no fruit and vegetable district not equipped with such a system can afford to longer remain without one.

The bugbear about tinned goods not being healthful and cleanly is now rapidly vanishing. New statute regulations, enforcing cleanliness and restrictions on the employment of labor, go far to make for improved conditions all along the line. A factory which countenances the practice of filth in any of its processes is liable to have its plant shut up by the state authorities, with publicity on the condition found where the penalty was placed. With such contingencies staring them in the face, managers are not going to court danger, and the plant of today is in most instances a fit place for the preparation of foodstuffs.

The time will come when all the products of the soil will be conserved for future use by the canning process. Already remarkable progress has been made in preserving canned eggs. But if one so wills he does not have to patronize a community plant; he can now set up his own plant, right in the orchard, and some have made a remarkable success in this way, but the day of canning is here, and any man or producing district not having this process available is playing the game at a loss. So long have such factories operated that the last doubt of permanency for the business has now disappeared.

TO MAKE PORK SAUSAGE

(Continued from Page 14)

should be fine salt one ounce, black pepper one-half ounce, pure leaf sage, finely pulverized, one-half ounce, ground cayenne pepper one-half teaspoonful. Mix thoroly and run thru the meat-chopper again.

If it is intended to keep over any considerable length of time, make in cakes and fry brown, pack closely in stone jars and pour melted lard over it until the sausage is covered. Cover jars nicely and set away in a cool place. Sausage put up this way will keep nicely a year.

HOW TO CURE BEEF

One of the important means of solving the high cost of living on the farm is being neglected, if each farmer does not produce and cure the meat for his own household.

Any of the brine or dry mixtures which gives good results in curing pork can be used satisfactorily for beef, but as beef is leaner than pork, it should not be allowed to remain in the brine or mixture quite as long, or it will become hard and salty.

Dried beef should have the same cure as corned beef, care being taken not to let it get too salty. It should then be washed to remove the excess, and smoked, if you like the smoke flavor. A very good country practice is to dry-cure the beef with salt and brown sugar, using about a fifth as much sugar as salt, rubbing the meat very thoroly with the cure every two or three days for about two weeks. It should then be washed, wiped and hung up to dry in a warm place if you do not wish to smoke it, or transferred to the smoke-house and given a light smoke.

Corned beef is at its very best when it has been in the cure about ten days. If you wish to preserve the red color of the beef, you should use a small amount of saltpeter, not more than two ounces to each 100 pounds of meat. This improves the color of the meat, but is detrimental in that it tends to harden the lean fibre.

PROFITS INCREASED ON THE FARM

The harvest is over. Every machine and implement which is not in use should be under cover. The fall rains plant the seeds of rust, which are harvested by the manufacturers of farm machinery.

The average life of farm machinery in this country is short, entirely too short, and for years has caused an enormous annual loss to the farmers. The best machinery will wear out in time, but the life of any implement depends primarily upon the care it has received and the facility and ability of the farmer to do repair work.

The implements used on the farm represent a large investment, and this investment increases yearly. Every year that can be added to their life represents profit. This is the age of the "iron horse," and unless we take care of our machinery the annual loss is going to increase enormously.

Every farmer should study his machine, and see where he can increase its efficiency. Oil is cheaper than repairs and new tools, and when properly used will reduce the friction and increase the life of the machine.

If the binder has not already been housed, it should be done as soon as possible. During a trip across the state last winter, the writer counted seven binders out in the field within a radius of fifty miles, and some of them were new machines. Under such treatment a binder will not last more than three years. Then the total yearly loss on these machines, whose cost was about $900, would amount to $300. This is more than the yearly profit on some farms. With proper care the same machines could have been made to last ten or fifteen years.

"A high polish on the moldboard is of far more value than that acquired in high society." When you are thru with your plow this fall, cover the moldboard with any heavy grease that will keep the air away from it, and put it away. This will keep the plow from rusting and can be easily removed. The same treatment to the disc harrow and cultivator shovels will protect them.

The farm machinery is only used for a short period, but must work continuously when being used. Hence it must be in good running order and properly adjusted.

When buying a new machine, keep in mind these four words: Simplicity, Reliability, Durability and Accessibility. Then if the machine is given proper care, long life and greater profits are insured. Use plenty of oil and grease.—M. A. R. Kelly.

PLANT CROCUS BULBS NOW

The dainty crocus is the first flower to appear under cultivation, often coming up underneath the snow. The best effects are obtained from this flower by scattering it about the lawn. Lift the sod, set the bulb three inches deep and pack the sod back around it. These bulbs are cheap and well worth while.

TIME TO PLANT PEONY ROOTS]

Peony roots should be planted right now for good results. Set them in a fertile soil with the buds or crowns about two inches below the surface. A little winter protection in the way of leaves or straw to be removed early in the spring is advisable.

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Just get ONE friend to give you 25c for a full year's subscription to THE FAMILY—send us the name and the quarter and we will mail you this elegant Ring (guaranteed for 5 years by the manufacturer) with your own initial engraved on it. Enclose 5 cents extra for postage. 30 cents in all. Address
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Astonish and mystify your friends. Ventriloquist "Double Throat" or Swiss Bird Call. Fits roof of mouth—is always invisible. You can whine like a puppy, neigh like a horse, sing like a bird and imitate beasts. Lots of fun. Postpaid, 10c each, 25c a dozen. Buy them and sell to friends.
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LISTEN! Here is a position that will pay you $30 to $50 a week and a chance to work up a permanent, growing business of your own. My wonderful line of High Grade Soaps, Perfumes, Creams, Powders, and other Household necessities, sell like blazes all the year round—FROM NOW TILL XMAS IS THE HARVEST TIME—best time to start. Demand for my goods is growing by leaps and bounds. I simply must have 500 more agents immediately, to supply my customers. I WANT YOU! I can give you territory right at home. I'll put you on your feet and make you somebody in the business world! This is your chance to get out of the rut into a real business.

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I go the limit to make you succeed. No company in the world offers such inducements to GOOD Men. Our clever plans, free circulars, simply MAKE business. Remember I am an old time agent myself. My 20 years' experience and great factory back you at every step "Square Deal Davis" is what my thousands of delighted agents call me. My plan is square, my methods simple, and my word as good as bond.

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In addition to big cash commissions of $25 to $50 a week and up, we have liberal plans whereby you share in our profits. You are really a partner with me in this great business. This time next month you can be spending some of the big profits I tell you about. I pay bigger commissions and in cold cash—not premiums.

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B. J. Arnold of Mo. writes: "Never sold goods so fast in all my life. They sold on sight. Made $13.75 first day." Mrs. H. W. Hull writes: "This is new work for me, but in less than 8 hours my sales netted me a profit of $7.50." Mr. J. de Church writes: "The first two orders I sent you last week took me only 2 half days' work. I made $17.60 clear profit. I found out that all your words are true,—that an agent can make $10 to $20 a day. If a man don't try he will never believe. I BELIEVE NOW BECAUSE I CAN MAKE IT." Thousands of others write similarly. Why not you? You are as good as anybody.

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Don't fool around wasting your time, when you can make big money with my plan. I put it up to you square: Do you want this job? Then GRAB IT, now—this minute. Costs nothing to get all the facts. Simply mail coupon today, NOW.

E. M. DAVIS President, Dept. 97, Chicago, Ill.

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Only HARTMAN'S with their $12,000,000 capital, their tremendous organization and over 2,000,000 customers are capable of such a record smashing offer as this. You can order any size or style Majestic Engine you want—any size Majestic Separator—all the Roofing and Paint you need—and we will send it immediately. You pay no money down, make no bank deposit, no C. O. D. We don't ask for security of any kind. Everything confidential between you and Hartman's.

Simply state what you want and we'll ship it at once without red tape or delay of any kind. If satisfied with the goods or article, make your first payment—one-tenth in 30 days and pay balance monthly in nine equal installments—or, pay one-sixth in 60 days and balance in 5 equal payments every two months, which gives you a full year to pay.

We have devised these new Credit Terms to suit the convenience of the farmer—it is the most liberal credit ever offered by any concern. Write us for FREE booklet on articles in which you are interested and note our sensational bargain prices.

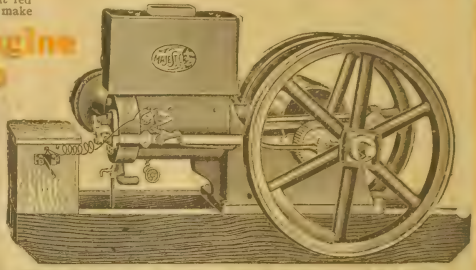
Most Remarkable Engine Offer Ever Made

Send coupon for FREE book and note the sensationally low bargain price put on each engine. You wouldn't believe it possible that such a high grade engine could be sold for so little. But Hartman does it. And you are not asked to pay a cent in advance or keep the engine if you don't think it, the most wonderful bargain ever offered.

Send for a Majestic Engine on our No-Money-In-Advance Farm Credit Plan. When the engine comes, work it as though it was your own for 30 days, and if you are not fully satisfied with it in every respect—send it back at our expense and you'll owe us not one cent. If you are completely convinced that the "Majestic" is a wonderful bargain and just exactly the engine you've been waiting for, then keep it and pay us one-tenth in 30 days; or one-sixth in 60 days according to our farm credit plan.

The Majestic is most powerful for its H. P. rating and most economical-to operate gasoline engine. Not a bit like old style, over-heavy types of engines which consume enormous amounts of fuel. Or like others, that are so light they literally jerk and tear themselves to pieces running at high speed, or under heavy load.

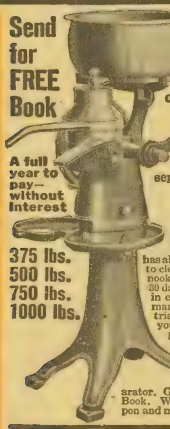
The Majestic is neither too heavy nor too light. Has fewer number of parts—a marvel of simplicity. Perfectly balanced—just the right weight for the power it is designed to develop. Has big improvements in all vital points. Convenient, compact. Gives long, lasting, good, efficient service without trouble or bother. Send coupon for FREE book.



Sizes Stationary Engines: 2, 3, 5, 7, 9 and 14 H. P.
Hand Portables: 2, 3 and 5 H.P. Horse Portables: 5, 7, 9 and 14 H.P.

A FULL YEAR TO PAY

Send for FREE Book



A full year to pay—without Interest

375 lbs.
500 lbs.
750 lbs.
1000 lbs.

This offer is exactly the same as that made above on our famous Great Majestic Engines. No Money down—a full year to pay—without interest—and the lowest price on this strictly high grade separator.

The Majestic Cream Separator

has all the latest improvements. Simplest to clean—all parts readily accessible—no nooks or corners to gather dirt. Use it 30 days; then if you're not satisfied it is in every way the best separator on the market, return it at our expense. The trial costs you absolutely nothing. If you decide to keep it, make the first payment of one-tenth in 30 days or one-sixth in 60 days—the balance in easy payments according to our Farm Credit Plan. We want you to learn all about this wonderful separator. Get the proof. It's in our Separator Book. Write your name and address in coupon and mail today.

Paint and Roofing Bargains

Our sensational bargain on Paints and Roofings combined with Hartman's Special Farm Credit, offer an amazing money-saving opportunity. Send for free book. Order any amount of house, barn or roof paint—any amount of Roofing—not a cent in advance—no deposit—no C. O. D. We ship immediately. If satisfactory, pay one-tenth after 30 days, or one-sixth after 60 days according to our Special Farm Credit Terms.

Rex-Kote Paints Ready mixed. Guaranteed not to peel, blister, chalk or rub off. For house, barn or roof. Lowest prices ever quoted on 1, 5 and 50 gallons. All colors. Send name and address on postal or coupon for **Free Paint Catalog** containing color card showing all paint colors.

Hercules Roofing is the most durable and efficient for every purpose. Heat and cold do not affect it. Is positively proof against all kinds of weather. Made from highest quality, long-fibre roofing felt, thoroughly saturated with pure asphalt. Both sides thickly coated with fine, sharp particles of crystal, which are firmly imbedded under enormous pressure.

Rolls contain 108 square feet. Nails and cement free. We carry a full stock in all plys and weights for all purposes. Send the coupon or a postal for Roofing Bargain Book and Free Samples of entire line.

Mail Coupon For FREE Catalogs

Just place an X in ☐ in coupon opposite catalog or catalogs wanted, sign and mail it to us. The catalogs you request will be mailed to you at once, absolutely free—no obligation to you. After books arrive, note the wonderful bargains and order on our No-Money-In-Advance Liberal Credit Plan. Send coupon for book and details.

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Free Book Coupon

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Without obligating me, send catalog checked and details of your No-Money-Down Year To Pay Farm Plan at address given below.

- ☐ Majestic Engine Catalog No. E-218
- ☐ Majestic Separator Catalog No. S-218
- ☐ Paint and Roofing Catalog No. P-218
- ☐ Samples of Hercules Roofing.
- ☐ Color Card of Rex-Kote Paints.

Name.....

Address.....

HARTMAN Will Trust You

FARM NEWS

Springfield, Ohio November 1916

Our $2,500 Cash Prize Offer Appears on Page 25

WANTED!

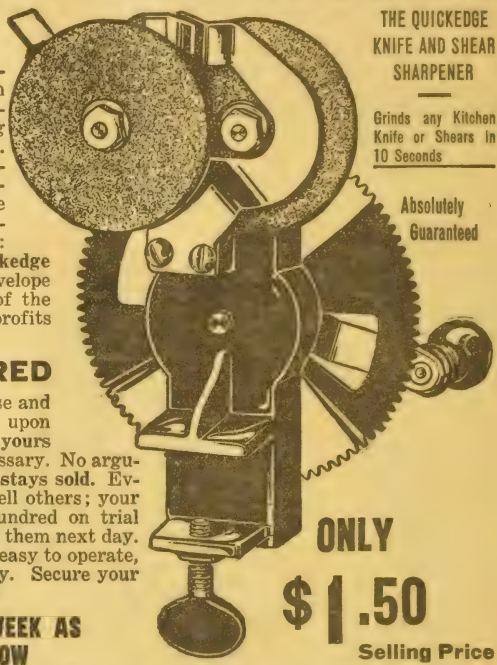
WE WANT 300 AGENTS AT $35.00 TO $70.00 A WEEK

New invention—just out. Needed in every home every day. Patent just applied for. Nothing else like it. Supplies what every housewife has wished for for years. Perfected after long experimental work by mechanical experts. Low priced—any one can use it—**sells on sight.**

We want three hundred representatives at once—men or women hustlers—to advertise, accept orders and manage deliveries for our new **Quickedge Knife and Shear Sharpener.** Sharpens any kitchen knife, paring knife, carving knife, bread knife or shears and scissors **in ten seconds.** Agents are taking orders at every house—**wiring for rush shipments.** Write today for this opportunity to make $10.00 to $20.00 every day—over

$300 PER MONTH

This little machine is a mechanical masterpiece. A child can use it. Just put knife in slot—turn crank—**grinds automatically**—draws blade to keen, sharp, perfect, lasting edge **at absolutely correct bevel for daily use.** Nothing to adjust—nothing to change, nothing to wear out or get out of order—**absolutely guaranteed**—will last for years—once they see it and use it women will not do without it for ten times its cost. One agent wrote: "It was easier for me to learn to sell the **Quickedge** than it was to learn to tear open my pay envelope in my former dollar-a-day job." Get out of the dollar-a-day class. Get this position, where profits start the first day.



THE QUICKEDGE KNIFE AND SHEAR SHARPENER

Grinds any Kitchen Knife or Shears In 10 Seconds

Absolutely Guaranteed

NO EXPERIENCE REQUIRED

Just take one of the machines to any house and show it—give a ten-second demonstration upon the dullest knife in the house; **the order is yours right on the spot; instantly.** No talking necessary. No argument. The machine simply sells itself; **and stays sold.** Every customer becomes your friend. They tell others; your profits double and multiply. Leave one hundred on trial over night. Collect the cash for every one of them next day. **The machine will do its own talking;** it is so easy to operate, no explanations or instructions are necessary. Secure your county now; free. Get started right now and

ONLY $1.50 Selling Price

MAKE AS MUCH MONEY NEXT WEEK AS THESE MEN ARE MAKING NOW

J. C. Lewis, of Kansas, says: **"I have sold one hundred Sharpeners in four days."** Hobart Kerr, of Md., writes: **"The women can hardly wait till they get them."** Herbert Cain, of Ky., sold nine after supper. At the end of his first day, J. W. Gordon, of Pa., writes: **"I have sold two dozen, and I sold to every one I saw."** Wm. G. Hall, of N. J., says: **"I think it is great; I sold six in about one half hour. The machine is a mighty fine proposition. I am a mechanic, and I know what I am talking about."** Peter Courtland, of Mich., writes: "I received your sharnener and opened it in a barber shop. I ground his shears, and got an order for one right on the spot." H. A. Henkel, of Va., says: "I have examined it and find it a wonderful little machine. **The workmanship is simply perfect."** Frank King, Colo, says: "Sample received Saturday. Sold ten today. Sell to most every house." Forest Webb, of Pa., says: "Went out Monday afternoon for about three hours and received one dozen orders. **Profit $12.00."** H. Tillery, of Tenn., wrote: "Took three orders first hour. When you sharpen an old knife, dull as a hoe, in less than a minute, **they sit up and look."** Ray Carter, of Mass., writes: "I went out two days and have orders for thirty sharpeners." **Profit $30.00 for first two days.** John Durr, of Wis., also says: **"I have sold thirty in two days."**

You can make this money. **Send now. Territory free. Get busy.**

Write Today.

Low price, ease of operation, astonishing quickness, and absolute perfection of results, money-back guaranty. These things make the Quickedge the fatest seller of the age—the **biggest money-maker for agents, general agents and managers ever invented.**

MAKE $70 NEXT WEEK

Easy to start—easy to make big money if you will just follow instructions and work faithfully. **No charge for territory. 200% profit for agents.** Business supplies capital. Exclusive protection, co-operation and assistance. Failure impossible. Nothing to risk. Success assured.

Easy to demonstrate—and every woman is anxious to see it work—then she would not do without it. No talking necessary. Just show the machine and take the order—one dollar profit on every call you make.

Send for application blank and complete information today—**free.** Investigate. **Get the proof. Don't delay.** Write a postal card or letter right now. **Territory is being assigned very fast.** Get your county now—**free.** Write today.

THE QUICKEDGE SHARPENER CO.

DEPT. 638 215 W. SCHILLER ST., CHICAGO, ILL.

Shredded Fodder for Bedding

And Other Economics in Farm Practice Which Have Proved Successful

IN OUR feeding operations at Riverside Farm, we have found it more profitable to seed one bushel of Canadian field peas per acre with our oat crops, and cut the mixed crop for hay for the dairy cattle and young stock. The crop makes excellent food for dairy cows, sheep and young stock, and saves the expense of hiring a threshing machine. On the stock farm, I believe that one can get more profit from the oats crop handled in this manner than he can by going to the additional expense of threshing the grain and using the straw for bedding. The only objection to this method of handling the oat crop is that it makes one short of bedding, but for many years we bought straw from neighbors at from $1 to $3 per ton, and it made a lot of cheap bedding and fertilizer. Two years ago, however, the short hay crop compelled us to look elsewhere for our supply of straw or bedding material.

Fortunately, we had an excellent crop of corn, and after filling our silos, and feeding considerable shredded fodder, we decided to use the balance of the shredded fodder for bedding. Some of this fodder was in rather poor condition for feeding, so we mixed it with wheat straw, cut and worked it in for bedding and manure. As a substitute for straw as a bedding material, we have never used anything that will keep our cows so clean, and has a like capacity for absorbing so great quantities of liquids as shredded cornstalks. Nothing we have ever used compares with it in the ability to keep stock dry and clean—only peat moss, produced in limited quantities in this country, is superior to it.

There is no need for expensive liquid manure reservoirs that some dairy barns are provided with when shredded stalks are used for bedding. And the manure that accumulates from animals bedded with this material is easily forked and spread. The animals bedded with shredded stalks will keep extremely clean, and even white horses will keep comparatively free from stain. In producing clean milk we have experienced no difficulty while our stock have been bedded with this material.

In some localities, where an intensive system of crop-growing is being practiced, or where small grain crops are needed for roughage, it will pay much better to feed such crops as oats and peas than to grow oats and thresh them for grain. The way the problem hits us at Riverside Farm is that we have been growing oats at an absolute loss for several years, but still continued to do so in order to have some bedding material for our cows and horses. So long as we could buy a few tons of straw at a low price from neighbors we solved the problem very easily, but when forced to depend upon our own farm for bedding we had but the one alternative. A revision of our crop rotation in a manner to eliminate the oat crop for grain and use cornstalks for bedding. Since harvesting the oats and peas a few days earlier we have had better success with our clover and timothy seeding, probably due to the fact that the grain crop was removed in time to give the young clover and timothy plants an opportunity to make a good growth before the extreme warm weather dried out the soil.

FEEDING SILAGE AND SELLING HAY

When we built our first silo our aim was to feed silage to our dairy cows, and depend upon hay and fodder crops for feeding our young stock and sheep, but after experimenting with silage in feeding young stock, sheep and a few head of fattening cattle we decided to build another larger silo and preserve, at least, one-half of our corn crop in the silos. By feeding more silage we have gradually increased our herd of dairy cattle, and find it easy to keep more beef cattle and feed considerable purchased grain. Feeding more stock gives us more manure, which means larger crops of hay, corn and small grain, so that we have all of the stock that our barns will accomodate, and more roughage than we can feed out at home. Moreover, the silos are a practical insurance against frost loss in the cornfield, and a big factor in saving all of the forage that a dry season leaves in the field. We find that the silos, and a few acres of alfalfa we have started, are two of the most important factors in our farming. It has changed our feeding operations from a gamble to a certain source of profit.

During the past two years we have sold from 40 to 50 tons of hay a year from our mixed mowings, and made more manure than would have been possible by feeding all of the hay at home, and not having the other silo. The money invested in the silo does not represent the selling price of one year's hay crop. In our farming the silo has demonstrated its ability to pay for itself in one year. With our mows full of alfalfa and clover hay, one barn floor full to the roof of oat and pea hay, and two silos full of corn, we have sold enough mixed timothy hay to pay for a large silo, and can carry our stock thru the winter in better condition than we could without the silo. Such a system of feeding, especially where considerable purchased grain is fed out on the farm, permits the selling of hay without depleting the farm of fertility. It may be possible to get too much of a good thing, but we are going to build another silo. We are just beginning to see the advantages of silage in soil building here at Riverside Farm.

The cull products of the garden should not be thrown away. Everything of this sort should be fed to the poultry and livestock. Little potatoes, both sweet and white, are excellent stock-feed, and the same is true of small cabbages, and all the outside leaves that are not fit to store. Nothing need go to waste on the farm.

In the great out of doors or at the evening reception

Baker's Cocoa

is equally acceptable invigorating and delicious

Walter Baker & Co. Ltd.
ESTABLISHED 1780 DORCHESTER, MASS

World's Best Roofing
At Lowest Prices Ever Made

Reo Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Siding, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Positively greatest offer ever made. We PAY the FREIGHT.

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To try in your own home 30 days free, no matter where you live. Show your friends. Send it back at our expense if you do not want to keep it. Hundreds of thousands in daily use. Perfect bakers, efficient heaters, made of high grade material, beautifully finished, smooth design, guaranteed for years by our Two Million Dollar Bond.

Ask your dealers to show you Hoosier Stoves. Write for our big free book showing photographs, describing large assortment of sizes and designs to select from, explaining our free trial. Send postal today. Write your name and address plainly. No obligations.

HOOSIER STOVE CO.
129 State St., Marion, Ind.

to Make More Money from Your Hogs

You have all the care, and expense of raising your pigs. See that every cent of profits come to you.

When you sell hogs on the hoof the pork packer gets the biggest part of the profit. Get these profits yourself; turn your hogs into country lard and sausage with the

"ENTERPRISE"

Sausage Stuffer and Lard Press

Stuffs sausage that keeps, because it has the Patented Corrugated Spout that prevents air from entering casing. Plate can't jam or crack because cylinder is bored true. Strainer handled readily when filled with hot cracklings, because it has broad lips. Long handle—easy turning. *9 sizes and styles—2 to 8 quarts. Japanned or tinned.*

4 quart size, Japanned, price $6.00

Chopping sausage meat is little trouble with an

"ENTERPRISE"

Meat-and-Food Chopper

It actually *cuts* meat and other food and doesn't tear, mangle or squeeze out all the nourishing juices. The "Enterprise" four-bladed, razor-edged steel knife and perforated plate cut like a pair of shears. This Chopper is a big help economically in the kitchen because dainty, delicious dishes can be made for all meals from left-overs.

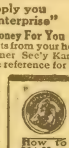
72 sizes and styles

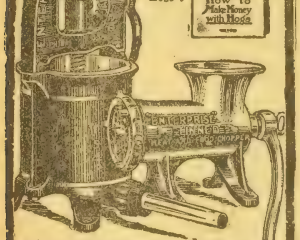
No. 22 Chopper, cuts 3 pounds per minute, price $2.50
No. 22 Chopper, cuts 4 pounds per minute, price $4.50

Your dealer can supply you
Look for the name "Enterprise"

This Hog Book Will Make Money For You

Tells you how to get all the profits from your hogs. Written by F. D. Coburn, former Sec'y Kansas Dept. of Agriculture. A valuable reference for the hog raiser. Send 10c in stamps for "How to Make Money With Hogs".





New Cook Book with 200 tested recipes and household hints, telling how to make new, appetizing dishes. Send 4c in stamps for "The Enterprising Housekeeper".

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Driver Agents Wanted

Ride in a Bush Car. Pay for it out of your commissions on sales. I am daily shipping cars to Bush Agents. Agents getting big orders. Big profits for you. Write at once for my 48-page catalog giving full details.

Address me personally, J. H. BUSH, President. Dept. 1151
BUSH MOTOR COMPANY, Bush Temple, Chicago, Ill.

Practical Farm Notes

From Many Sources Comes Information Which Helps to Add the Dollar to the Bank Account

STORING THE WAGON BED

An advantageous place for the storage of the wagon-box is overhead in the shed where the wagon stands when not in use. A simple plan is to place an eyebolt or a ring of sufficient diameter to allow a piece of inch rope to pass thru it about eighteen inches from each corner of the bed at approximately the point where the stakes are located. Four pieces of inch rope of sufficient length to reach from the rafters to the rings or eyebolts in the wagon-box and back again over the rafters, leaving enough slack so that the box can be drawn up to the beams, are also necessary.

If desired, rings or eyebolts may also be set at the points on the rafters where the ropes are fastened, so that the rings may act as pulleys in reducing friction when the box is raised from the wagon. Another practical plan is to fasten two pulleys about seven feet apart on the rafters above the wagon. A double coiled rope runs thru each of these pulleys in such a way that a slip-noose may be placed around each end of the wagon-box, in order that the bed may be raised from the trucks.

The method practiced by many farmers of leaving their wagon-boxes out in the weather is bad. The bed will warp and swell, and will not fit the truck when it is again needed. The farmer will be obliged to jam the bed into place, and then it will be almost impossible to remove the box without injuring it. The old-fashioned rack upon which to store the bed is all right if it is located under a roof or shed. However, it is a heavy lift, and requires quite a bit of time to place the wagon box on this rack, whereas with the pulley or ring method one man can rapidly remove the bed from the trucks.

IT PAYS TO WINTER CATTLE

Entirely too much fodder, straw and corn are annually sold from the farms that produce them. Instead of being cash-cropped this material should be home-fed. Many farmers are able to feed all their crops at home without owning much livestock and without a heavy investment in cattle, hogs and sheep. They sell their crops with the stipulation that the grain and roughage must be fed on the home farms. In this way they realize a double profit from their surplus feed, in that they receive its full market value in cash and at the same time they return to the fields the manure that results from the cash crops.

For example a farmer will contract to feed fifty head of cattle for a neighbor. He will sell his corn fodder for six cents a bundle, according to this plan. He will receive market price for any short corn or straw which he feeds. The labor which he has to devote to feeding and caring for the animals is not of much importance, but the manure which the cattle in turn distribute over the land is of great value to the fertility of the farm. The farmer is not responsible for the cattle other than to feed them twice a day. This plan is one of the best that any farmer can follow, where he is considering the permanent fertility and improvement of his farm

The price of stock cattle is high. The margin of profit consequent on the feeding operations is small. If one or two steers out of a carload of twenty-five are seriously injured or die, the profits from the whole feeding operations are jeopardized. However, there is a safe and fairly certain profit for the farmer who winters cattle. He should figure closely in order to ascertain the exact amount of surplus feed which he has, and then he should contract to feed as many cattle or sheep as he is able. In some sections of the country the practice of renting cornfields to sheep-owners who will graze their flocks over the cornfields is successfully pursued. The owner will estimate his corn crop and sell it on this basis to the sheepman. The land owner ordinarily sells his crop at a good figure, and is able to feed it right on his farm.

The man who wishes to winter cattle usually meets with little trouble in locating some neighbor or stock-dealer who will be willing to put the stock out to be fed. It will pay the farmer to advertise the fact in his local newspaper that he will winter cattle. If the business pans out well, it will be to his advantage to make a winter speciality of work of this nature.

DYNAMITE IN LAND RECLAMATION AND CLEARING

With the coming of dynamite into the agricultural field, it is now possible to reclaim thousands of waste acres throughout our country heretofore unproductive and considered worthless.

Many old fields cleared by the first settlers, and abandoned generations ago because of the exhaustion of the fertility of the top soil and by erosion, can now be brought back into profitable cultivation by the blasting of the subsoil and blasing down banks where erosion has occurred, partially filling up gullies and loosening up the earth for yards around.

For the blasting down of banks charges should be placed at from three to five feet of the edge and from four to six feet apart. From three to five rounds of 40 per cent. dynamite or farm powder should be used to each hole These should be drilled to a depth of about one-half or two-thirds of that of the bank.

Best results are obtained by electrical firing, using a small inexpensive blasting machine. For small gullies and ridges one string of such charges is usually sufficient. Where gullies are ten feet or more deep from two to three rows of such charges placed back of each other will be necessary. After blasting, some team work will be necessary in the further filling of places. This will be rendered much quicker and easier, since the blasts have thoroly loosened and

pulverized the soil for yards around.

For the cutting of bends and crooks out of streams, dynamite has everything beaten. In such places, especially in small bends, team work is almost impossible. Where banks are not over five or six feet deep, holes should be put down to within a foot or two of the depth of the bank, and spaced about five feet apart and about that distance from the face of the bank. Load the holes with two or three pounds of 30 or 40 per cent. dynamite or farm powder. Now connect all these charges together, and fire electrically with a blasting machine. This will give a much better result than where the charges are fired separately by the old cap-and-fuse method.

Farmers are fast learning that dynamite is the quickest and cheapest method of removing stumps, especially the larger ones. Blasting tears and splits them up, so one man can handle them when the time comes for their removal or piling for burning.—A. H. Harris.

INCREASING THE MANURE SUPPLY

For many years we have hauled all of the manure from our dairy barn to the fields and spread it every day when the weather conditions permitted. This is, perhaps, the ideal way of dealing with the manure problem, so as to derive full benefit from its use, and avoid a lot of disagreeable work when the other farm activities demand attention in the spring. One disadvantage, however, is the fact that we seldom had a load of well-composted manure to use for the garden and fruit orchards that are just coming into bearing.

Three years ago we set out to solve this problem by building a concrete pit for the horse, hog and sheep manure. By reinforcing the manure in the pit with about 150 pounds of ground phosphoric rock to a ton, and putting four or five half-grown pigs in a pen where they have the run of the manure pit they keep it thoroly mixed and well tramped down so as to prevent beating. I would not recommend this practice from the standpoint of a hog-grower, but the pigs have shown no ill-effects from the practice.

Last fall we hauled 20 loads of dry muck from one of our fields, and put it in the bottom of the pit. This helped to increase the quantity of manure, and the action of the bacteria in the manure should render the nitrogen in the muck more available for the growing crops. I think the practice worth trying out in a moderate way, and we plan on putting more muck in the manure pit this fall. When manure is kept without pigs on it, any addition should be spread over the surface and well-packed down, instead of being dumped in a heap. Also, to have the manure thoroly and evenly composted, the heaps should be turned and restacked once or twice during the period it must be kept, taking care to place in the middle of the pit all that was previously on top and near the sides. This rehandling stimulates bacterial activity, and greatly improves the mechanical condition of the manure. The "hogging down" of manure may not find favor on some farms, but who wants to pay hired men 25 cents an hour to perform a task that the hogs will do for nothing and pay us for the privilege.

This compost heap in our manure pit furnishes us with a supply of the best kind of garden and orchard fertilizer. It can be mixed with chemicals to meet the requirements of the different crops, it is easily handled, and will save many a $5 bill formerly paid out for a sack of commercial fertilizer. Last spring we had more than 75 tons of the best kind of fertilizer for our early potatoes and orchards. I look upon this saving of farm manure as a problem that we, as prudent farmers, must give more attention in our farming, or acknowledge our failure to the world. This year's crops of 16 bushels of wheat, 30 bushels of corn and 20 bushels of oats on $200 per acre land here in our great Cornbelt does not speak very highly for our prevailing crop-growing and fertilizing systems. In fact, it is not in keeping with the economic conditions of the country.

SOW RYE ON BARE CORNFIELD

Cornfields that lie bare all winter will cost farmers thousands of dollars thru the loss of soil fertility, in the estimation of W. E. Hanger, of the Ohio State University, Agricultural College Extension Service. This is especially true in rolling sections. Unless some crop is grown on this land, the action of rain and other weathering agencies will destroy unnecessarily an enormous amount of plantfood. A great deal of this waste may be saved by planting rye. Not only will washing be largely stopped, but a great amount of humus will be returned to the soil by plowing under rye in the spring—and humus is greatly needed.

After the tops of the asparagus have been killed by frost, mow off everything above ground and burn it. Cover the bed with stable manure to a good safe depth.

"NO TROUBLE"
To Change from Coffee to Postum.

"Postum has done a world of good for me," writes an Ills. man.

"I had indigestion nearly all my life, but never dreamed coffee was the cause of my trouble.

"It irritated my stomach and nerves, yet I was just crazy for it. I got so I was in misery all the time.

"A friend advised me to quit coffee and use Postum — said it helped him. Since taking his advice I retain my food and get all the good out of it, and don't have those awful hungry spells.

"I changed from coffee to Postum without any trouble whatever, felt better from the first day I drank it. I am well now and give credit to Postum." Name given by Postum Co., Battle Creek, Mich.

Postum comes in two forms:

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Successful Methods of Marketing

The Feeder Who Gets the "High-Dollar" With Live-Stock Must Understand the Game

By Lester J. Meredith

FARMERS and stock feeders, who year after year top the market with carloads of fat stock, understand breeding problems as well as the marketing end of the game. They know that in matters of meat-making the well-bred animal that has a form approaching the ideals of the packing-house buyers will command the top prices on any market.

The packing-house will pay for what it wants, and that is invariably the animal that furnishes a carcass that cuts to the best advantage when the block is reached. It is almost a hopeless proceeding for one to undertake the feeding of livestock on a commercial scale unless one has a knowledge of the types and classes of animals the buyers are in search of at certain seasons of the year. Breeders as well as farmers and feeders should be quick to catch the trend of the demand, and set themselves right to meet it.

In the last analysis the market rules the type of animals we must finish. We may protest and demand all we please that the ideals of breeders and feeders should rule the market, but when the stock goes to market the buyer has the call and makes the price, and the reports show that the animals that top the market possess the meat-making form. Occasionally, there are times when quality does not command the premium it deserves, but even then the animals that lose most in killing are discriminated against. So long as our profits as feeders come cost cheaply and promptly from animals that mature early, and give a carcass of greatest value and weight for food consumed, we have no use for animals that do not approach the ideals of the killer. It is no use to deceive ourselves with the idea that we can succeed in getting top prices for animals that do not fit into the classes the market demands.

After selecting the kind of animals the market demands at the time it will pay the highest prices, we must study the marketing end of the game to find out the most favorable time for securing the high prices. The date upon which the top prices of the year will be paid is a secret persistently withheld from the feeder, but changes occur that are regularly anticipated by students of the marketing problem, and by making a careful study of the changes of prices for the several kinds and classes of animals during a series of years, one can get a pretty good line on the seasonal variations in deciding during what month he can market his stock to the best advantage.

To plan his feeding so that his cattle, sheep or hogs will be ready for market when prices are highest, means greater profits from the amount of feed consumed. It is a source of profit worth striving for, providing one can bring his animals to a proper finish at that period without going to any great additional expense. By making a careful study of the normal differences in price at certain periods of the year, one can frequently modify his feeding system without any extra expense for feed and labor. The holiday season, Lent, Easter, and some of the Jewish holidays, increase the consumption of poultry and lessen the demand for beef, pork and mutton, but as a rule these seasons do not upset the markets to any serious extent.

Sleek coats and uniform type brings best returns in the market

Feeders of beef cattle who have prime fat cattle to market find April, May and June a season of high prices, altho prices are usually on the down grade late in May and early in June. There is an active market for prime steers early in December, but from the middle of January to the middle of February beef steers are likely to reach the low mark for the year. This is a good season to avoid when marketing well-finished stock. Eastern feeders ship most of their cattle during May and June. Kentucky and Tennessee unload in May. Illinois and Indiana in June. The cheap stuff from eastern dairy farms is sold late in August and early in September, and reduces the beef prices in that section. Grass-fed cattle are common from the middle of July, but corn-fed cattle command a premium of a dollar a hundred. Low-grade native steers slump badly during the late fall and early in the winter. July is a good time to buy feeder cattle. The demand increases rapidly as soon as the conditions are favorable for a corn crop, and prices advance rapidly. The spring demand is satisfied by the middle of June, and by July prices reach the lowest level of the year. Drouths in many sections drive feeders to market, besides many thin ones are coming in from the range. One can usually get better feeders at this season than late in the summer or early in the fall—and this is an important point, providing one has plenty of pasture and feed to carry them along until fall.

Sheep feeders find October an unfavorable month in which to sell well-finished animals. During November and December the native lambs are cleaned up, and prices for good lambs begin to go upward. By the middle of January prices reach a high level, and continue high until late in April. The Southern lamb crop lowers prices during June and July. Most of the range lambs from Montana and Wyoming that arrive during October and November go into cornbelt feedlots. Many feeders prefer to buy their lambs early, and secure a better class of feeders than come in the early runs, but on account of the early arrivals from Idaho, Oregon and Utah reaching the markets in better condition they have to compete with the killer's prices, so that feeders are at a disadvantage in buying at this season. Considering the gains that can be made from fall feeding, it pays to obtain a supply of feeders late in August or early in September, providing one can get them at reasonable prices. It does not pay, however, to stock up the feedlot with a bunch of too high-priced lambs.

The forepart of April and the middle of September are the time to reach the high-dollar mark in marketing hogs. The summer period of low prices, and the winter rut are the seasons to be

(Continued on Page 14)

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The Wool and Mutton Crop

World's Supply Has Practically Remained Stationary For Years While Demand Has Increased in Leaps

By W. C. Smith

ASK the average sheep-breeder how he accounts for the increase in the price of wool, and he will answer, "War." He is largely right. In less than two years wool has advanced almost fifty per cent., and lambs more than half as much. In the same time we have been allowed to import no coarse wool from Australia and other British wool-producing colonies.

Wool is as necessary as bullets in time of war, and it is needed at home for uniforms, blankets, underwear and socks for soldiers. Furthermore, the wool which we have been importing from South America is inferior to that produced by British colonies, and England and her allies have not been the only nations who needed it. Germany "beat us to it" in common parlance. As this was the only large wool-producing area left open to us, our home supply has gone up by leaps and bounds.

But there is one thing that the average grower has not taken into consideration. That is the fact that the world's supply of wool has practically remained stationary for years. Furthermore we have been consuming about 150,000,000 pounds more than we produce, and the wool-consuming population, instead of remaining stationary, as has the supply, has increased, and will continue to increase.

The gospel of more sheep has been preached for years, but the number kept on the smaller farms of the Cornbelt and the homesteads of the West have not materially increased. Several causes may be assigned for this fact. One is that the attractions of corn and hogs, dairying, trucking and steers promise better profit and quick returns, and has become a sort of habit outside of the sheep-producing centers. Some of these people do not wish to raise sheep. They have heard the gospel, and often agree with it, but in the end they stick to the older lines.

Everyone who has had a try at the sheep industry has not made a striking success. There have been failures as well as successes, and very often one failure in a community will discourage a whole neighborhood, and give even a good-paying crop a black eye. During the past six years the number of sheep of shearing age has decreased in this country, owing to the fact that more and more lambs have gone onto the market each year, and the decrease has been fairly uniform in all of the states. While it has been generally contended that many small farms will keep more sheep than a few large ones, such has not been the case, for reasons stated above, and in some measure accounts for the decline, when the fact that much of the range country of the West has been homesteaded by men who are grain farmers at heart.

Moreover, the required capital is at present instrumental in keeping men out of the sheep industry. Native grade ewes sell at public auction at from $14 to even $17 per head, and the largest class of buyers are those that have had little experience with sheep. The old-timers realize that sheep-growing is not all velvet, and many of them believe the bottom will fall out of the industry as soon as the war ceases, and conditions again become normal. In view of existing conditions as cited this does not seem likely. Formerly wool was the only consideration in sheep-growing, because of the prejudice against mutton as food, but this prejudice is being educated out of the buying public. Now more than three-fourths of our sheep crop is marketed in the form of lambs, and the consumption is increasing.

Range lambs on a Cornbelt farm

These western ewes offer a splendid opportunity for the man who wishes to make a start with sheep. They are extremely hardy, and the best of foragers. They also shear well, and a good-sized western ewe will shear from six and a half to eight pounds of good wool. In purchasing such a flock it should be uniform, and one that can be reasonably expected to produce lambs uniform quality. Nothing appeals more to the prospective buyer than uniformity. Going at the business single-handed is not so alluring, nor is it often as profitable as is the plan of co-operating with one's neighbors in the community, which usually leads to success.

Another important point to consider is the physical characteristics of the land itself. Very often this largely influences the career of the sheep-grower. The animal is naturally at home on high, dry and well-drained land, and two sheep will rustle a ration where one cow would nearly if not actually, starve. This close grazing is one of the objections which many people raise when the proposition of adding sheep to the farm rotation is considered, but it is a boon to the man who owns considerable acreage of upland that has run to undergrowth. Many farms are not adapted to sheep-growing, being low, too hot, or too near cities, and the slogan, "Sheep on every farm," is totally overdrawn, as every sensible person realizes.

But because sheep are excellent foragers is no reason to believe they do not need care. Every farmer should be prepared to feed his sheep thruout the winter, and most of the successful feeders keep roughage before them at all times. Because they graze close, and eat weeds and growth that other stock will not touch, is no cause for confining them to that particular ration. In fact, the man who expects his sheep to thrive in such a case will in time become a knocker on the industry because he has failed at it. Because many who go into the sheep-growing business expect this very thing is one mighty reason for failures.

The last census showed sheep on more than 600,000 farms of our total of 6,000,000. While this is not a large ratio, it is one that will convince the intelligent thinker that enough farms are growing sheep, if only the numbers kept, and the methods followed, were consistent with the management of any highly specialized industry. Even tho there were not a dog in the land, the flock still needs watching eyes and diligent care. They have been educated to depend upon man for too many years to be left to their own resources now.

Our dogs and stomach-worms are regarded as two of the worst enemies of sheep. The former may be guarded against, and a vermin-tight enclosure is a necessity on every sheep farm and losses are still apt to result despite precautions. The stomach-worm, especially dangerous to young lambs, often discourages the farmer with small acreage, because the soil becomes infected, and he loses heart. This can be remedied by plowing the pasture

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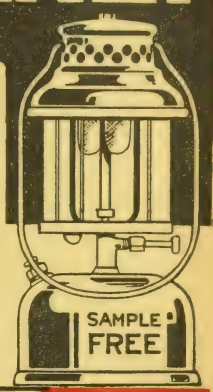

Yes, here they are at last—two kinds of successful artificial light—one a lamp—the other, a Lantern, or Outdoor Lamp. With ordinary coal oil—common kerosene—they throw a wonderfully brilliant light, 12 to 15 times brighter than the old dingy lamp or lantern. Night can no longer cast its gloom in or outside of the home in the country or small town. Think of it—burning 98% air and only 2% fuel, a wonderfully clear, healthful, white and pure light is produced. "Liberty" Lamps and Lanterns are just the kind of lights their name indicates—freedom from the foul smell—freedom from muss and trouble—freedom from danger. They look better—work better—give a many fold brighter light than old methods, and cost much less.

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Low Cost **Only 1/5 of a cent per hour for fuel.** Never before have you heard of a light that produces the power of 300 candles of **clear white light—literally burned from the air. 98% of the lighting gas of the Liberty Safety Lamps and Lanterns is air—only 2% fuel**—either kerosene (common coal oil), the cheapest known fuel—or gasoline. Besides the saving in fuel, they save steps and labor. **No wicks to trim—no soot—no greasy, foul smelling odors.** You cannot turn the Liberty Lamp up too high to smoke or low to smell.

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Fruits for the Farm Orchard

Some of the Pitfalls to Avoid and Some Sensible Suggestions as to Varieties to Choose

By L. H. Cobb

THE feature demanding greatest attention in choosing fruits for the farm orchard is variety. In this it differs radically from the commercial orchard, where one or two good varieties offer the best chance for profit, except where it is necessary to extend the season to secure marketing facilities. The farm orchard, which is intended to combine home supply and market supply, can better contain as few varieties as will pretty well cover the seasons, and enough of each to utilize to the best advantage the marketing force. It will not pay the farmer to have more apples of one kind than he can market with his regular force, nor less than he can handle conveniently without waste of time. The same is true of any other fruit grown. Neither should the orchard be so large that it cannot be sprayed and properly cared for in other ways.

The ordinary farm orchard is intended especially for home supply, and it is thus I intend to treat it. Knowing that there are more people who do not really know what fruits they want than that do, and wishing to help them to avoid the pits being dug for them by the smooth-tongued agent, with his marvelous new varieties and novelties, I am going to mention a few varieties I would plant. Then I am going to further advise that you be sure the agent is working for a good reliable nursery, that he supplies you a duplicate of your order giving the exact list of varieties you ordered, and that he marks distinctly on the face of the order you sign that there will be no substitution without your consent. These points are important, and not often observed, greatly to the farmer's detriment.

Cherries come first in season of bearing, and Early Richmond is the old standard, still holding its own with the newer sorts. There are several Montmorencies, all good, but not all reliable bearers in all locations. Better find out whether they do well in your neighborhood before planting many of them. The English Morello bears well in most localities and is the standard late. Most of the new varieties are the same as these or slight improvements on them. Cherries should have a place in the farm orchard, for they are very hardy trees, sure bearers, and not much bothered by insects. Any surplus fruit is always salable at good prices.

Plums probably lead the orchard fruits in number of varieties with real differences. The two classes most generally planted here are the native and the Japanese, tho some of the European have value. Wild goose is grown extensively, and is the most popular native. Abundance, Burbank, Wickson, October Purple and Gold are all good Japanese. The Shropshire Damson and the German Prune are excellent foreign sorts, but not sure bearers in all places. I am especially partial to the Japanese, with their large size, firm, meaty flesh and small seeds. They can be used fresh from the trees for a longer period than any other plums.

Peaches cover a long season if the varieties are well chosen, but the first earlies are inferior in quality. The Elberta is about the earliest really good peach, and it is the standard for shipping or canning. Other and later peaches have much better quality, the Crawfords being about the best. Sneed is an excellent late cling. Many of the newer peaches have good qualities, and there is room yet for improvement in this fruit.

While pears are desirable fruits, not many of them are wanted in the farm orchard. One or two trees for use in the late summer and fall, and one or two of the best varieties for putting up will be all the average family will care for. The Tyson and Seckle are the best in quality, both small in size, sweet and juicy. Tyson is a summer pear and Seckle a fall variety. Kieffer is a good main crop variety, and is said to be fairly free from blight, tho I could see but little difference. It bears well and is of very good quality when it mellows. If you want your pears to be fine eating, when either canned or made into preserves or butters, don't put them up until they begin to soften slightly. Much of the prejudice against putting up pears is because the hard fruits were used. All pears will soften in their season. Gather them, put in an airy place, and keep cool and in the shade until they begin to mellow. The early varieties will have better flavor if gathered when ripe and allowed to mellow in the shade.

Apples are the standard fruits, and the varieties cover the season completely. Beginning with the summer apples and ending with the latest-keeping winter sorts, apples can be had until the next year's summer apples come in again. It is useless to give lists of these, for there are so many, and an apple that appeals to one does not appeal to another. I care nothing for the Ben Davis or any of its tribe, nor do I like the Duchess, or any very tart apple, while Grimes' Golden and the Huntsman's Favorite I enjoy. Red June, Maiden Blush, Rambo, Fameuse, Jonathan and Winesap, in addition to the two named above, make a good list, while the Improved Janet makes an excellent late sort. Delicious is a fine-flavored apple and has many advocates, tho it is a comparative new sort. The best way to get a good list of apples for your locality is to consult your experiment station or visit good orchards in your vicinity.

All the large nurseries advertise in the farm papers and will gladly supply catalogues. Most of these catalogues will give fairly accurate descriptions of the fruits. Judge this by the fruits you know, and then read all about the other sorts, and you can tell pretty well what varieties will suit you, tho you can tell better if you can taste the fruit. If you will make an effort to do so in season you can often get hold of the fruit if you live near a nursery.

ADVANTAGES GAINED BY FALL PLOWING

This question is considerably discussed in the agricultural papers, and opinions as to benefits and objections freely given. The benefits usually claimed are, the relief from the hurry of the spring, with danger of not having ground plowed early enough, earlier seeding, improved soil structure, better holding of the moisture, the destruction of numerous insect pests, etc. These benefits offer strong inducements to fall, and also winter plowing, where possible.

An objectionable feature of spring plowing is that usually there is a rush at spring planting-time which often results in late, too late in fact, planting of crops. Sometimes work is slack in the fall, and there are days in which farm labor can be used to good advantage by plowing. Thus crops can be seeded earlier when spring arrives.

Freezing and thawing during the winter make plowed soil finer, and will furnish a better seed-bed. This, together with the greater amount of moisture retained in such soils, certainly makes better crops possible.

It is my opinion that the longer heavy sod ground lies fallow before seeded down to crops the better it will be for the crops, as the sod is seldom, if ever, sufficiently decomposed to become available plantfood for the first year's crop. The perfectly settling together of the upper and lower layers of soil, which increases the moisture supply to the growing crop, is equally as important. Usually, when plowed late in the spring, sod ground does not have time enough to settle and become compact, and consequently there is not so good a capillary connection between the turned-under sod and the bottom of the furrow, as there should be. This being the condition when a dry spell ensues, as it often does, the upper layer of soil is cut off to a certain degree from the currents of moisture that are pouring up from the soil below. When the moisture coming up from below strikes an air space between the two layers, it is more or less dissipated, and that is what we should strive to avoid by all means. There should be an uninterrupted connection, so that capillary attraction may work unhindered. Fall plowing helps largely toward accomplishing this end, as sod will decompose and ground will settle during the winter months.

Our warfare against white grubs, wireworms, cutworms and corn-ear worms, which live over winter in the ground, is greatly helped by fall plowing, as many will be killed in this way. I would suggest late fall and winter plowing where possible, for the reason that these pests come in more direct contact with the cold and killing frosts.

Some of the objections to fall plowing, are greater liability to erosion or washing, and lack of a cover crop. To offset this to a large extent, deep plowing, say eight to twelve inches, is advisable. It will be found that it soaks up the rain, and does not wash and gutter as badly as many suppose.

In fall plowing there is always a great temptation to set fire to dead weeds and grasses which sometimes hinder the plowing. This should not be done, as there is plantfood in such material that only needs the aid of nature after it has been plowed under to make it available to growing crops. Lucky is the man with a mulch to plow under, no matter of what nature the material, just so it contains some plantfood elements when decomposed and mingled with the soil.—J. A. Raiser.

GROW FRESH RHUBARB IN WINTER

Fresh rhubarb may be had all winter with little trouble. Before the ground is frozen in the fall, good strong crowns should be lifted and left out of doors until frozen solid. About six or seven weeks before the stalks are wanted for sauce or pies, these frozen crowns should be taken into the cellar and imbedded right side up in moist earth. The room should be darkened, and have a temperature of 50 degrees or more, if possible. The stalks will begin to grow in a short time, and they may be cut until the crowns show signs of exhaustion. These crowns may be refrozen and returned to the garden in the spring if desired. A dozen good crowns will supply the ordinary family.

Winter celery should be put in the cellar before the severe frosts have injured it.

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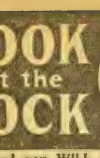

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FERTILIZER FROM THE DAIRY HERD

We keep dairy cows at Riverside Farm primarily to make manure and afford a more even distribution of labor thruout the year. Of all the animals kept on our farms the dairy cow is the best fertility builder. She is the farmer's highest trump card in building up his soil. Many dairy farmers have attempted to set the milk-producing end of the dairy business over against the crop-growing end, and from the unfavorable results have come the recognition of the fact that plants and animals—dairy cows and soil-building forage and grain crops—are economically inseparable. In its best estate the dairy farm produces the bulk of food for the cows and young stock. One cannot neglect the growing of forage crops as is shown by the present tendency toward depletion of available fertility. In many cases we are growing such scant crops that our farming is a losing game. In attempting to build up the soil by feeding dairy cows, many dairymen fail to make a judicious choice of feedstuffs. To buy feeds which will balance up the deficiency of protein in the homegrown supply is entirely proper, providing the right kinds are bought. Feeds like cottonseed meal, oilmeal and gluten, which possess a high fertilizing value, are the real supplements, as they usually supply the materials that are deficient on the farm.

Soils must be fed a balanced ration in order to yield large crops. Variety is relished by soils as well as by animals. Growing dairy foods means crop rotation. The legumes, clover, alfalfa, cowpeas and the like, figure prominently in the best dairy rations, and are valuable when grown in rotation with other farm crops. Having an ability to take their nitrogen from the air, they not only furnish the best quality of hay and pasturage for the cattle, but at the same time they supply nitrogen to the soil. By growing these crops along with corn, oats and field-peas, and converting them into milk, it is possible to return more than two-thirds of the plantfood removed by the crops to the soil. This solves the nitrogen problem. The stable manure and the roots and stubble of the legume crops turned under will liberate sufficient potassium.

Phosphorus is the one element that is most likely to be deficient. It is supplied in limited quantities by stable manure, but that source is inadequate. Acid phosphate, mixed with manure before it is applied, will make up the deficiency of this element. Ground rock phosphate may also be used to advantage, especially on soils that are rich in organic matter. It pays well to use these forms of phosphate on the average dairy farm.

If we are going to raise a large proportion of our feed, it is necessary to adopt a short system of crop rotation, and follow it up year after year. Corn, clover and timothy, oats and peas, and perhaps a cash crop, make an ideal rotation to supply food for the cows and leave the soil in ideal condition for future production. In this way a man can run his herd well thru the year without buying very much grain, and that only of the very concentrated sort. We must follow up this system, and if one crop fails, put in another. After we get it well started, and a portion of our farm seeded with alfalfa, we are in a position to make dairying pay fairly good profits. To make it really profitable, however, one must develop other sources of income, and depend upon the cows as an aid in building fertility.

MILK VEINS AND WELLS

The term "milk-veins and wells" is a common utterance of many when speaking of dairy cattle. To some people this is no doubt a vague term, and most people who know about that which is referred to, have an erroneous opinion as to what they are for and their function. These veins, which can be traced on the under side of a cow's body from the udder towards the front legs, are the veins to which reference is made. No milk ever passes thru these veins, as some people suppose, nor does the blood flow thru the milk-veins into the udder, as is claimed by certain individuals.

The blood circulates down to the udder and passes thru the milk-veins back to the animal's internal organs for purification. Instead of this waste or venous blood running thru the veins within the abdominal cavity, where there would be more or less resistance, the veins pass outside the retaining walls of the abdomen, just inside of the skin, and the openings where these veins enter the body are termed milk wells.

By having them large, tortuous and branching, extending well up towards the front legs, and entering the abdomen thru numerous large wells, their capacity is increased, and is an indicator of the amount of blood that may pass thru the udder from which milk may be produced, and thus an indication of the milking qualities of a cow.

GRIND THE GRAIN

A great portion of the grain fed to dairy cows is not ground. When grain is thus fed there is much loss, and furthermore, the chewing of hard dry grain is unnecessary wear on the system of the cow. It has been proved by experiment that when grain is fed unground there is as much as 22 per cent of it lost in the feces or manure. It has also been proved that the grain which passes thru the digestive tract of the animal contains practically as much nourishment as does the unfed grain.

The common opinion that the whole grain passing thru an animal has had most of the nourishment taken out of it is erroneous. Unless the animal masticates the grain it cannot be acted upon by the digestive juices, and therefore the nourishment is not extracted in the process of digestion. Last winter a dairyman told me that he did not practice grinding the grain for his cows. He said the pigs run with them when they were not in the barn, and got what grain was in the manure.

The pigs did get a large portion of the grain, but they did not get it all. In the spring the whole barnyard was filled with green corn, and the manure pile was likewise green with corn-plants. On closer examination the manure pile teemed with corn kernels. Even when the grain is fed in a ground condition there is still a good deal of undigested food left in the manure. When the grain is not ground there must be considerably greater waste.

It makes no difference where and how the grinding of feed is done, it takes energy to do it. To make the cow first extract the energy from the grain, and then use this energy for grinding more feed, is certainly an unnecessary tax on her, especially nowadays, when power on the farm can be had at so reasonable a price, and where practically all dairymen and farmers have power of some kind. A gas or gasoline engine should generate this cow-energy required for chewing hard dry grain, and the grain ground in a feed-grinder. An engine and a grinder do not cost much, and besides operating the grinder, the engine can be used for running other machinery.

Every possible morsel of food fed to dairy cows should be utilized for the production of milk and butterfat. The teeth and the stomach are the two organs of a cow which wear out first, especially the former. This is caused in great part by the cow having to eat hard dry unground grain. There is an old saying, "No chain is stronger than its weakest link." With the dairy cow also this holds true. When one organ of digestion wears out, then the whole cow is useless. A good dairy cow should be kept as long as possible, and if she is properly fed and cared for, she will be useful for about fifteen years. Some give a nice mess of milk at the age of twenty years.

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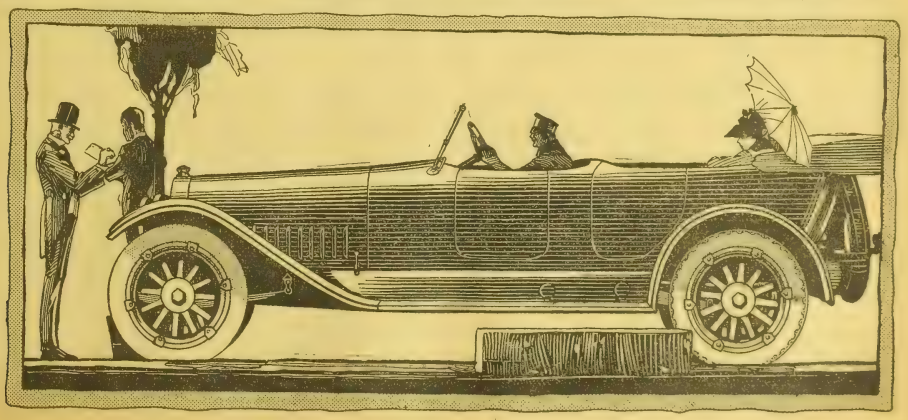

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Successful Methods of Marketing

(Continued from Page 6)

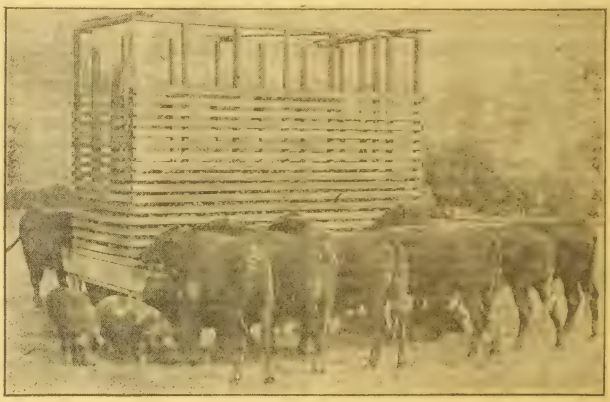
avoided. Very few feeders can plan their feeding so as to reach these high levels, but if one has the feed and conveniences it will pay to try to get his pigs fit to market at those periods. Provided one can get his spring pigs up to 200 pounds it will pay to cash them in when prices are high in September. He may not get quite as much cash, but he will have more corn in his cribs to hold over and finish his fall pigs for the April market. By planning to have the spring pigs come very early, the sows can be bred again in time to farrow fall litters to be finished for the April market.

Spring gilts held over and bred for early fall litters may furnish fall litters and be fattened along with the pigs and sold on the April bulge. This need not interfere with the spring pig crop and will in some instances return greater profits than one can obtain by attempting to get the older sows to breed back in time for fall litters. Pigs farrowed during August will make good growth by the time cold weather comes, and be ready to reach good weights by April.

Fall farrowed pigs, as a rule, require a longer feeding period than spring pigs, but much of the early gain can be secured at a very low cost, so that the cost of finishing is approximately the same, providing, of course, that one has suitable hog houses and conveniences for handling fall pigs. The greater amount of care required in feeding the fall pigs is more than offset by the time the feeder has to look after them during the winter months, when the farm work is not pressing, and the amount of cheap feeds he can utilize during the fall and early winter months. In this way forage crops can be used to get the cheapest and most rapid gains out of the spring and fall litters.

Cattle, sheep and hogs must go when they are ready for market. It is the best thing to sell when the animals are properly finished, that is, when they have reached a weight at which further weight can not be added at a profit. The only advice we can give is to try and have the animals in proper condition at a time when the market will pay a premium for quality, but if you fail to do this, sell them when they are properly conditioned, rather than gamble on future prices. There is a large expense connected with holding fat stock, and in many cases the markets go the wrong way. Every farmer knows that with corn at, say 50 cents per bushel, he is assuming the role of a speculator by holding a bunch of stock for a higher market, after the most of the grain is taken, for the food of support and the food of increase becomes a diminishing quantity, diminished to such an extent that one cannot make a profitable gain on the stock.

It is astonishing to observe during a visit to the stockyards how little care most farmers take in conditioning their animals for market. The most common mistake is made in selling animals that are half finished. Fully 75 per cent of all the animals sold reach the market in an unfinished condition. This, more than anything else, is probably accountable for the common belief that there is no money in feeding livestock. Sometimes stock is sold because grain is high. At other times the available supply of feed has been consumed before the stock is conditioned, but more frequently perhaps, many feeders do not understand what well-conditioned means.



Self-feeders for fattening steers on pasture

With some feeders it is a case of going with the crowd. No amount of reasoning can overcome the influence of the old proverb that "a bird in the hand is worth two in the bush." It is true, unless a man is a good shot. If he has judgment and nerve he can just as well bag the two birds at one shot as to miss the one. If he has plenty of feed and suitable yards and conveniences for his stock, he can finish it out, and not sacrifice them in a poorly finished condition to save a few bushels of grain. Whether farmers are feeding cattle, sheep, hogs or horses for market, it is always the last few bushels of feed required to get them up to the proper weight that brings the best returns.

The simplest method of selling livestock in small bunches is to sell to the buyers who visit your farm and make their selections. Men who buy in this way do not pay quite as high prices as you would be likely to get by shipping direct in carload lots to a large market, but it is many times advantageous to sell less than a carload in this way.

In dealing with these country buyers a man has an oportunity to exercise his talent as a salesman, for they are very shrewd men and are out to drive the best bargain they know how with men who do not understand market conditions and classes. In every stock-feeding community there are some feeders who sell their stock to the same man regularly, a plan which has many advantages to both buyer and feeder.

In shipping livestock to market, one should take care to grade and assort the animals as to size, form and condition. It is always the evenly developed animals that possess high quality that bring the top market prices. Stock that is marketed in a mixed and uncouth condition must be assorted and graded as to quality before it will bring its real value.

No man need spend much time in any one of the large markets to discover that uniformity and quality are two potent factors in securing the top market prices for livestock. The grades into which livestock is sorted vary somewhat in different markets but the standard grades are about the same in all the markets. In no market is it possible to pass a poorly conditioned animal for the top market price. The man who sells to a buyer, or ships to market a lot of mixed stock is sure to suffer the losses that result from sorting. It is apparent that in the future all livestock will be sold on the basis of quality. Years ago drovers purchased almost anything in the line of livestock, but today competition is driving the poorly fed animals from the markets, and only good stock can be sold at prices that will yield a satisfactory profit.

Every large livestock market has a fixed standard of prices which are subject to the supply and demand. If prices go up, it is always the highest quality of stock that commands the top price, while on the other hand, if the prices decline, it is the poorer grade of stock that suffers the greatest slump. There is always a demand for stock that possesses high killing quality, and no matter how large the run of the general classes, the demand for high quality can not be satisfied in any market. If the supply of the highest quality is limited, lower grades are frequently rushed in for a few days during the shortage, but the standard of prices remain unchanged.

Feeding animals just before loading and on the road is an item of great importance in having them reach market in good shape. For cattle, sheep and hogs only a limited amount of water should be given them while on the road. Hogs shipped loose in the car may be given a moderate amount of ear corn. If the weather is extremely warm the cars should be bedded with sand which has been sprinkled with cool water just before they are loaded.

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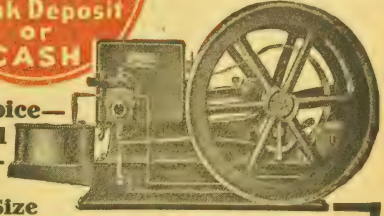

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Volume XXXVI NOVEMBER 1916 Number 11

Brief Comment of All Sorts

THE LAY OF THE HEN THAT LAYS

An egg a day the old hen lays, with which the housewife blithely pays for books and clothes and children's shoes, and Grange and Farmers' Union dues. The old hen pays the rooster's board, she buys the gas to run the Ford; she even buys the old man's cud, and still he meets her with a thud, if in the feed box she should stray, or roost upon his new mown hay. She buys the soap to clean the kids, the sugar and the family lids; she's up the first one in the morn, she's out and hustling in the corn before the old man chucks his snores to call the boys to do the chores. She's always happy at her work, no one can say that she's a shirk. She don't belong to any club, believes in paying for her grub. She does her work and doesn't care how others comb or curl their hair. She lives to serve and serves to live, gets all she can, is free to give of what the good Lord gives to her. A message from the hen to you is that there are but very few so thoughtless for their own reward, and few who sing and work so hard to make this old world a fit place to live in for the human race.—W. E. Valpon, Col. Ag. Coll.

WATCH FOR BANDS ON WILD DUCKS

If you kill or capture a wild duck bearing an aluminum band around one leg, having a number on one side, and on the other a statement requesting that the United States department of agriculture, or the biological survey, be notified, you are requested to send this band at once to the bureau of biological survey, United States department of agriculture, Washington, D. C.

The band, if accompanied by a statement as to date, place, and circumstances under which the bird was taken, will be of service to the survey in its efforts to determine the longevity of individual ducks and the routes of migration of the species.

The bands are being attached to considerable numbers of wild ducks of several species which have been cured of the duck sickness prevalent around Great Salt Lake, Utah, and there released.

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FARM BOYS' RECLAMATION CONTEST

The Du Pont Company of Wilmington, Delaware, only recently announced a Boy's Land Reclamation Contest. It should prove a success. It will surely save some of the millions of acres of land literally going to waste. Many farmers seem too busy with their present fertile land to bother with the waste acres, hence this contest is surely the boy of the farm's opportunity.

The idea of the contest is for the farmer to look over his farm and pick out the bad spots, then turn one acre of it over to his son, or another interested boy, and let him improve it.

If it is covered with stumps or boulders let him clear it. If it is swampy, let him drain it. Any method of reclamation is allowed. The company does not even insist upon the use of dynamite, altho in most cases it has proven to be the most efficient method.

The main points of the contest are, to clear the land, improve the soil, and then raise a crop. No special crop is specified, the only restrictions in the contest being that the work on the one acre must be planned and done or supervised by the boy himself.

The country has been divided into five sections, and prizes amounting to $600.00 will be awarded.

SEND FOR THIS

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You know enough about conditions as affecting prices generally to be sure that we are not misrepresenting the matter a particle when we tell you that the prices of nearly everything which enters into the production of FARM NEWS has advanced fully 100 per cent.

Under these circumstances you will appreciate our position when we tell you with a great deal of regret that we are compelled to raise the subscription price of FARM NEWS from 25 cents a year to 50 cents a year, or three years for $1.

We did not do this without a great deal of serious thought and consultation with manufacturers of paper, ink, etc., and not until we were absolutely con-

WINNERS WILL BE ANNOUCED

The work of analyzing the answers in the Music-Titles-Picture-game has so far advanced that we feel sure that we will be able to announce the winners in this Contest in the December number of FARM NEWS. On page 25 of this issue we are also announcing the inauguration of another Contest, similar in its nature, not so difficult, and which those of our readers who took part in the last Picturegame Contest should have no difficulty in solving. Read this announcement, and enter this Home Pastime Game at once. It will be found on page 25.

vinced that the day of cheap print paper is past for some time to come. We can't print FARM NEWS under the advanced prices and furnish it to you for 25 cents a year.

Your wheat and other products are bringing the highest prices you ever received, and we believe that you are fair enough to see our side of the matter and say that our request for an increase to 50 cents a year for FARM NEWS is not unreasonable. This increase must go into effect January 1, 1917. But we do not want to make this arbitrary increase without affording our old friends and subscribers a chance to renew their subscription in the short time intervening at the old price—25 cents a year, or three years for 50 cents.

Just look over the contents of FARM NEWS this issue—read Meredith's story on Marketing, and see if there isn't the full value of your year's subscription in that story alone. Not interested in beef, pork or mutton? All right, just turn to the Dairy matter we are carrying, good stuff, with the smell of fresh milk on it, by John Underwood, without a peer in the agricultural field as a dairy writer. Want to know a little something about selecting trees for the Farm Orchard? All right, look up Mr. Cobb's story about the Selection of Fruit Trees for the Farm Orchard—agricultural, even to his name—Cobb. Mr. Chesley has some mighty interesting stuff in this issue about Gardening, and some more about Trapping Along the Brooks. Not one of these stories but what costs us many times the price of what you pay us for a year's subscription. And they come along every month—helpful, interesting and practical. FARM NEWS' Editor makes a special effort to have everything that goes into the paper right from the man who knows. No high-brow stuff—but the men who talk to you just as tho you were leaning across the fence for a neighborly chat.

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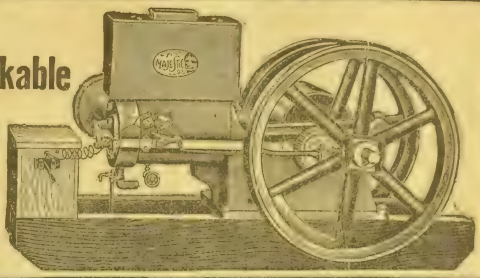

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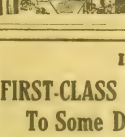

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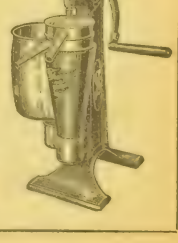

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Hunting and Trapping Department for FARM NEWS Boys—Trapping Along the Brooks

By C. H. Chesley

ALONG the brooks and rivers, and about the shallow ponds and lakes, the small fur-bearers are most common, and it is in such places that the amateur and professional trapper will have the most success. It is also true, in a certain sense, that water sets require less skill than dry-land sets. Water, covering the traps, removes all scent of human hands, and this goes a long way toward success.

Some varieties of fur-bearers frequent every kind of water. The muskrat loves the shallow pond, the mink the running brook, the raccoon and opossum the woodland swamp. Look up all such places in the neighborhood, and set traps calculated to capture the animals frequenting each locality.

First let us take up the muskrat. Different methods are used with different conditions, for this animal is found in brooks, swamps, rivers and ponds. It is most numerous, however, in the shallow ponds, and in such situations it is sometimes possible to capture them by the hundreds. The rat is most valuable in late winter and early spring. In fact it is the last fur-bearer to become prime. It is much harder to capture in the spring, however, and the inexperienced trapper will probably do just as well to set his traps in the late fall and early winter. In those sections where water does not freeze solidly, trapping may be carried on all winter. This animal is found in practically all parts of the United States. The most frequent abode of the creature is a house of sticks and mud reared above the surface of the water. These are constructed in the late fall, and the animals live in them all winter. A boat is usually necessary to reach these houses, in which a hole should be made large enough to take the trap. Set the trap just under the surface of the water, and stake in deeper water so the animal will drown as soon as caught. This is important in all water sets where it is possible. Set the trap in the shallow water and fasten the chain to a stake on the deep-water side. This prevents the captive from reaching shallow water or dry ground, where it would be almost sure to twist or gnaw off its foot and make good its escape.

In setting traps for muskrat about the houses, use something that will hold a mink, as these animals frequently visit the rat homes to prey upon the latter. Bait is seldom used in such places, but sometimes, after several have been caught in one house, the animals become frightened and desert the locality. Sweet apples, parsnips and carrots will often lure them back. These baits are also useful when traps are set in paths or runways which the animals frequent. Some muskrats live in the banks of streams, and paths and canals will be found leading to such dens. Traps in such places will prove fruitful.

A floating platform anchored in the pond where the creatures are numerous will be found useful. On this set a number of traps and bait as noted above. Muskrats are also very fond of clams, and they will dig up the shellfish and take them to the platform to extract from the shell. If there is a small islet or hassock, slightly raised above the water, set a few traps in the shallows, where the animals come out of the water. The barrel set is effective in ponds and still water. This is fitted with a tipping cover and sank about even with the surface. Bait is placed on the cover and the animal in endeavoring to get it is precipitated into the barrel. A little water in the bottom of the barrel will soon cause the victim to drown.

Where muskrats live in swamps, and seek their food along ditches and small brooks, they may be captured by building a barricade of sticks across the current, leaving just room to set the trap in the center. Traps in such places frequently take minks, and in two or three instances we have known of the capture of others and raccoons. It pays, therefore, to use strong traps for such sets. On the borders of deeper pools set a few traps strong enough to hold the mink, and drop a little fish oil on the bank near at hand. Bait for muskrat also. There is no need to use much skill in hiding the trap, as the muskrat is unsophisticated. The mink, also, seems to have little fear of traps set in shallow water, but when traps are set on land, more care is necessary in covering and concealing them. Methods of setting for muskrats after the ponds are frozen will be described in a later article.

Some trappers consider the mink a difficult animal to catch. It is true that a little more cunning is required than in the case of the muskrat, but on the whole, a little attention to the natural surroundings should bring fairly good success. It has been stated, it inhabits the vicinity of brooks, meadows and ponds. If the muskrat sets are put out with care, some minks will

be captured in them. The best bait we have ever used for mink is some sort of fish. Fish oil is also the best lure, and a few drops of it should be splashed upon the bank or the bait. The carcasses of muskrats, after they have been skinned, will also answer for bait. Indeed, the trapper should save the flesh of all muskrats, skunks and such animals. Cut up some of these and put them in a glass jar, set the jar in the sun and the meat will soon become rather "smelly", but the animals do not seem to mind that fact. The cover of the jar should not be fastened tightly.

We have had the most success for these animals in trapping along woodland streams. In the northern sections, trout streams are best, but any brook will do. If it is inhabited by fish of any kind, so much the better. Be sure to put a number of traps in every culvert. Minks love to linger about such places. Set the trap in natural stone enclosures or holes, also put them in wherever artificial stone houses or dams have been constructed, as advised in previous articles. Seek out the dens of the creatures, and make sets in as natural a manner as possible. In the fall and winter, however, these animals seem to lead a wandering life, and have no settled abode. Set traps in hollow logs and upon logs lying across the streams. Any mink travelling up or down a brook will almost surely investigate every hole and hollow log encountered. Use a few drops of fish oil to lure the animals to the vicinity of the traps.

Traps set upon logs should be fitted into notches cut in the wood. Spike the chain of the trap to the under side of the log so the captive will be likely to drown. It will jump into the water as soon as captured, and probably will not be able to crawl out upon the log again. Cover the trap lightly with dry leaves and make the surroundings as natural as possible. In the vicinity of large rivers or bodies of water, select steep banks as locations for the traps, and put them in just at the edge of the water, where they will be covered for an ich or two. If a hole is found in such a place, be sure to put in a trap. Enclosures of sticks and stones may also be used as places for the traps. Set the trap at the entrance, and put the bait in the back part, where it cannot be reached except by passing over the trap.

A good many raccoons are taken in sets arranged in the manner described for mink, especially along the woodland streams. The raccoon lives to a considerable extent upon fish and frogs which it hunts in shallow water. Sets in hollow logs and upon logs stretching over the water are particularly effective. Use fish, fish oil and anything of a strong smell for bait. Tree traps, of the type which are fastened to the trunks of large trees, are also good. Fasten the trap and place the bait above it. Large hollow trees are much frequented by raccoon, especially in the late fall and early winter. This animal is in condition for trapping rather earlier than the mink. It belongs to the class of animals that hibernates during the coldest weather, hence it must be trapped before winter comes on. The raccoon has a very highly-developed sense of curiosity, and is readily attracted by any small bright object. Trappers take advantage of this trait by using small hand-mirrors and pieces of bright tin to fasten near the traps. In tree sets, the mirror is placed above the trap. Some find it profitable to have small pieces of tin soldered to the pans of the traps. Any bright object placed near the set is almost sure to have a ready fascination for the animals, and many have been lured to their destruction by such means.

The opossum is an animal of habits similar to the raccoon. It is commonly known as 'coon in the South, but is not as large as the real 'coon, and its fur is usually of considerably less value. It is fairly common in the swamps of the middle and southern states, but is not found as far north as the raccoon. Incidents are on record of its having been taken in New England and New York, but these cases are rare. In regions where both animals are found, the same set will do for both. On the whole, however the 'possum is easier to capture than the raccoon. Its food is largely frogs, insects, birds, small animals and crayfish. Set the traps about hollow trees in the deep swamps or along paths, using almost any kind of meat for bait. The pelt of the opossum is valuable only for a short time. Unprime skins should never be marketed as they are not worth the cost of expressage to the buyer.

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Wintering Fall Calves

Much Care Should be Exercised and Each Individual Should be Studied to Get Best Results

By John Underwood

IN WINTERING fall calves, good comfortable shelter is very important. Plenty of straw or coarse litter should be employed in bedding the animals, and the sheds ought to be cleared out at intervals of not more than two weeks.

One of the evils of caring for the average calf in winter is overfeeding, and if care is not exercised along this line much trouble may come. In feeding milk to a calf we must bear in mind that its stomach will hold just so much, and it is well to study each individual, and feed it just the proper quantity at each feed. Where several calves are being raised, it is a poor plan to feed them their milk in a trough, and allow them to drink together. The most rapid drinkers will get the largest amount of the feed, and the weaker ones will become stunted and dwarfed in a short time.

The best method is to give each individual its proper quantity of milk alone in a clean pail. Unclean feeding pails are the cause of much disorder in calves. Except when the milk is cold enough to bring a chill over the calf, I feed it to them without warming. They appear to do just as well upon it as when it is warmed, and it saves work. But cold milk is never fed when it will chill the animal. In this case the calf cannot do well, and the milk is warmed by the addition of hot water in order to remove the chill.

The supply of rough feed on the farm usually consists of alfalfa, clover, pea hay, oats, millet, timothy hay and corn stover. The three first hays named are best for calves being raised for future use in the dairy, as they promote growth without much fat, which is very important. The calves ought to be given these feeds in amounts they will clean up nicely three times daily, and it is best to feed them in small open racks or mangers, placed at a convenient height, so they may reach the feed well, and not waste it by trampling it down.

Oilmeal in addition to chop feed, chiefly oats and corn ground together, make a very good feed to balance the ration of roughage. This should be fed to each animal in just the quantity it will stand without showing signs of disorder. Some growing calves will consume more than others without inclination toward a disordered stomach. In case of this cropping out, I have found it a good plan to give a beaten egg in the milk.

It is not a good custom to mix the grain diet with the milk. It should be fed in small troughs, where each individual may have its share alone. I supply the chop feed in a perfectly dry state, experience having proven to me that this is much the better plan than mixing it with any liquid. Calves, when being fed upon dry feed, will consume more or less water, aside from the milk diet they may be receiving, and good water must be given regularly. In very cold weather I slightly warm the water. A very little salt mixed with the grain diet is beneficial. It causes the calves to relish their feed more, and tends to prevent stomach disorder.

A small open rack eliminates the waste of much feed

The providing of feed and water should be uniform in time and manner. Calves, as well as all other stock, soon learn when feeding time comes, and as it approaches the various digestive glands begin pouring out their secretions in anticipation of the coming meal. Adjoining the calf shed there ought to be a good-sized lot in which the calves may take exercise, and receive the benefit of the sunshine on bright days. Exercise and sunshine are two great factors in maintaining the calves in a healthy condition.

WINTER CARE OF MILK

A good deal is said about how to take care of milk during the summer time, but not so much concerning its care in winter. On account of the temperature being lower it is easier to care for milk in winter than in summer, and still there is much milk in winter that is not as good as it could be.

More poor milk is caused by neglecting to keep utensils, cows and stables clean than by any other two things concerned in making and handling milk. When the weather is cold there is a great temptation to wash pails, cans, strainers, separators, parts, etc., not more than once a day, or at most to simply "give them a rinse" with cold water. The result is sure to be milk and cream of poor quality.

The most easily secured and best cleanser of dairy utensils on the farm is boiling water. A little of some of the soda preparations for the removal of fat from cans, pails, etc., is a fine thing to use for cleansing milk-soiled utensils. To prevent coagulation of the albumen the milky parts should be rinsed with cold or lukewarm water before the hot water is used. Many vessels have a yellowish coating on the outside which is very hard to remove. This coating is caused by using hot water on the milky parts, which coagulates the albumen in milk.

Assuming that the stables are clean and free from dust, the next point is to keep the cows clean. Especially should they be well cleaned a few minutes before milking begins. This will give loose hairs and dirt time to settle, and they will not fall into the milk while milking is going on. In spite of the greatest care and the most modern dairy barn equipment, some cows are dirty nearly all the time, while others are almost as careful as some people in keeping themselves clean. Under present conditions, except in certified milk establishments, where the cows are almost constantly attended to, it is practically impossible to keep cows as clean as they should be when kept in the barn most of the time, as they are in winter. But every effort ought to be put forth to keep them as clean as possible.

Some of the important things that anyone can do are clipping the hind parts, cleaning daily with the currycomb and brush, and washing the udder and teats, if necessary, before the milking process begins. From what has been said we learn that the principal part of caring for milk in cold weather should take place before the milk is taken from the cow. This is the chief difference between caring for milk in winter and summer.

In winter, however, it is better to cool the milk with water instead of letting the cold air do it, for air is not as good a conductor of heat as water, hence we can cool milk more rapidly in water, and air, even in the winter, about the stables and dairy houses, is apt to be contaminated. Hence milk exposed to such air is very likely to be more or less impure and tainted. By placing the vessels containing the milk in cold water, having chopped ice surrounding the milk container, the milk is cooled rapidly, and the conditions are most favorable for having good milk. On the other hand, it is best to not let milk freeze.

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Statement of the Ownership, Management, Etc., Required by the Act of Congress of August 24, 1912.

Of Farm News, published monthly at Springfield, Ohio, for October 1st, 1916.
State of Ohio, County of Clark—ss.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared Rupert Wissinger, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Farm News, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Simmons Publishing Company, Springfield, Ohio.

Editor, H. D. Brydon, Springfield, Ohio. Managing Editor, M. C. Young, Springfield, Ohio.

Business manager, Rupert Wissinger, Springfield, Ohio.

2. That the owners are:

The Simmons Publishing Company, Springfield, Ohio; M. C. Young, Springfield, Ohio; Mrs. H. L. Simmons, Cincinnati, Ohio; John N. Garver, Springfield, Ohio; R. Simons, Admr., W. C. Simons Estate, Arlington, Pa.

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Winter Gardening In Pits

A Unique System Which Has Proved to be Frost-Proof and Has Brought Good Results

By Charles H. Chesley

NOT long ago the writer's attention was called to a method of growing plants in winter without the use of artificial heat. While this is rather costly to carry out on a considerable scale, those who have the time, and feel like spending a little money to prepare the pits, will doubtless find the experiment well worth the cost. In latitudes where the winters are not particularly severe, it is quite possible to winter over many plants simply by using frames. In Ohio, for instance, it is doubtless true that the underground pit can be made to serve a real purpose.

The idea is to use the natural heat of the earth to grow the vegetables. This is done by excavating a pit and covering it with tight sashes, having the glass slope toward the south to carry off water and to get the full benefit of the low winter sun. The pit should go to a depth that will assure a temperature of no lower than forty-five degrees or thereabout. This will probably not be more than 12 feet. Stone up the sides to keep the earth from caving in, and also cover the bottom with stones. Put in cement sides below the frost line. Below that line leave the rocks loose. This is done in order to interfere as little as possible with the heat from the surrounding soil.

The sash above should be heavy and supported by T-irons. Double-glazed is the rule, and there should be an air space between the two layers of glass. On all fair days the sash should be raised, the distance to be controlled by the temperature. On dull days the sash should be kept tightly closed. Heavy mats should be provided to cover the grass at night, and whenever the mercury runs low. It is stated that a pit of this kind will hold a temperature approximately forty-five degrees, even when the outside temperature drops many degrees below zero.

The basic principle of this idea was worked out by the late Frederick W. Taylor, of efficiency fame, and has been put to the test in Pennsylvania and other states. We believe that patents cover the plan, but permission can be obtained from the present owners, should anyone desire to take up the idea. Doubtless many modifications would occur to the experimenter, and the time may not be far distant when market gardeners, and even up-to-date farmers, will raise their own winter vegetables.

The pit is adapted to growing lettuce, radishes, green onions, cauliflower, peas, cabbage and many other vegetables. It is also adapted to growing flowers, like violets, chrysanthemums, sweet peas and asters.

CLEAN UP THE RUBBISH

It is not generally realized to what extent the insects harmful to the gardener and fruit-grower spend the winter in brush piles and rubbish situated close to the plantings. An old brush-grown hedge, fence or wall, in close proximity to the garden or vineyard, is a constant menace, and probably is the means of helping at least half of the insect pests to get thru the winter successfully. If no rubbish is close at hand, the insects are compelled to seek safety in a more distant place, and as a result a smaller proportion find the garden next season. Old potato tops, bean-vines, melon and squash vines, even piles of tops from the root crops, harbor numbers of hibernating pests.

Nothing should be left on the garden that is not absolutely needed there. The old vines and weeds should be raked up and burned. In this way many of the pests will be destroyed if the work is done late enough in the fall. It is a good plan to plow after this has been done, or, better, still, turn the land over during some winter thaw. This is not always possible, but when conditions will permit it is a good practice, as many of the pests that spend the winter in the ground will be turned up and destroyed. Even a small obstruction left about the garden will serve as a catch-all for blowing leaves and help to hide a few pests. Prunings from fruit trees and bushes should also be burned.

Bean-vines, potato-tops and melon-vines also help to hold over diseases like the rusts, blights and anthracnose, and for this reason they should be ruthlessly destroyed. After everything has been harvested, and the mulchings have been put on where they are needed, we like to clean up every dead weed and tuft of grass, using a fine rake and combing carefully, and then burn the rubbish.

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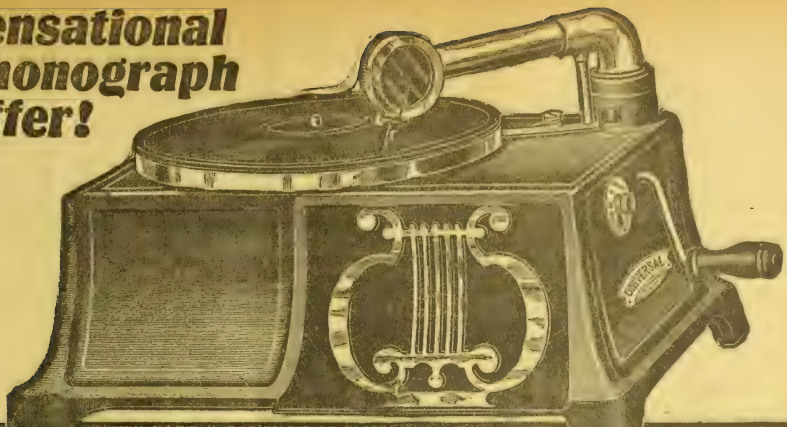

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The Cook's Part at Butchering Time

By Jane E. Clemmens

At this season of the year the thrifty farmer's wife cooks and cans her meats, and the old hens and surplus roosters Then they are ready to serve at short notice, and grain is not wasted in feeding and caring for non-paying chickens during the winter months.

At the time the hoof-and-mouth disease tied up the markets, my neighbor had stock just ready to ship. He did not want to lose out, so he had a big butchering time. His good wife canned, canned and canned beef, veal and hogs, but it paid them well. They had their own smoked and canned meats, and got top prices for all they wanted to sell.

It is just as practical to have canned meats in the winter storehouse as it is to have canned fruits and vegetables. And the busy farmer's wife will find it mighty convenient to have these canned meats and chicken on the emergency shelf when there are an extra number of hired hands to feed, or the unexpected guest drops in to spend the day.

Home-canned veal, beef, lamb, mutton, pork and chicken are all delicious. Meat-stock, stews and soups may also be canned and used to good advantage. By having on hand a few half-pint, pint and quart jars and tin cans any surplus stuff can be sealed for future use, and will save time, money and labor.

Meats are really best canned in tin cans just as you would can tomatoes. The stock and stews may be put in the glass jars with good new rubbers. Always place the rubbers and covers in boiling water for a moment before placing them on the jars. If a commercial outfit is used the directions for canning which go with the canner should be carefully followed.

To Can Beef, Veal, Lamb, Mutton and Pork—Cook the meat until tender, season with salt and pepper. Cut the meat into pieces small enough to pack closely into jars, or tin cans, which are better for the purpose. Fill them to overflowing with the liquor in which they were cooked and seal at once. All meat and chicken should be taken right from the fire and sealed as soon as possible while boiling hot.

To Can Chicken—Dress and cut up the chicken and stew it as tho you were going to serve it at once. Season, and when cooked almost enough to serve, pack in your jars or cans, fill up with the liquor in which it was cooked and seal tightly at once. When you want to serve it you need only boil it a few minutes, and make your gravy or dumplings, or use it for potpie or any other fixings made with stewed chicken. The best results are attained when the cooked chicken is canned with little broth, the liquid fat being used to fill up the jars.

Pork chops may be fried, packed in stone jars, covered with hot lard, and when cold a cloth tied tightly over the top. Keep in a cool dark place.

Sausage may be fried and sealed in tin cans or packed closely in stone jars after it is cooked. Pour melted lard over it and cover with a cloth. An excellent way to keep sausage is to pack it in a crock, set it in the oven in the morning when you start breakfast, and leave it in until supper time, then set away to cool. When cold, cover with a cloth and keep in a cool place. Fill the crock about three-fourths full. The lard which raises to the top will keep the sausage, and can be taken off and used as you slice down the sausage. You can cook it on ironing day, and it is an easy and safe method of keeping it.

To Make Lard—Take the leaf fat from the inside of a bacon hog, cut

(Continued on Page 28)

ALL THESE FREE

Gold plated Locket set with sparkling stone and 22-inch Chain, one SIGNET NETHERSOLE BRACELET to fit any arm and these four GOLD PLATED RINGS, all given FREE for selling only 12 pieces of our Jewelry at 10 cents each. Write for them.

EAGLE WATCH CO., Dept., 64 EAST BOSTON, MASS.

Save One-Half

MAGAZINE Club Bargains

You know the price of white paper has nearly doubled and that the prices for magazines must soon be, and will be, correspondingly increased. Take our tip and order your favorite magazines now—save one-half now and one-half later. The clubs we offer below are truly wonderful bargains and all are the biggest values out, even at their full price, but we save you nearly one-half. They are each and all the great popular magazines of the day, giving more for the money than most any of the others. Just order by club and use a plain slip of paper naming the publications you want. Write your name and address plainly.

Today's (1 yr).....50c
Peoples Home Journal (1 yr)....50c
Farm News (3 yrs).....50c
Total value.....$1.50
Our price 75 cts

Housewife (1 yr).....50c
Peoples Home Journal (1 yr)...50c
Farm News (3 yrs).....50c
Total value.....$1.50
Our price 75 cts

Peoples Home Journal (1 yr)....50c
McCall's Magazine (1 yr).....50c
Farm News (3 yrs).....50c
Total value.....$1.50
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Ladies' World (1 yr).....50c
Peoples Home Journal (1 yr)....50c
Farm News (3 yrs).....50c
Total value.....$1.50
Our price 75 cts

Ladies' World (1 yr).....50c
Today's (1 yr).....50c
Farm News (3 yrs).....50c
Total value.....$1.50
Our price 75 cts

Housewife (1 yr).....50c
Today's (1 yr).....50c
Peoples Home Journal (1 yr)....50c
Farm News (3 yrs).....50c
Total value of this Club .$2.00
Our price $1.00

$2,500 CASH FREE

Accept any one of these Money-Saving Magazine Club Offers, add 25 cents extra, and we will send you free and prepaid a complete "Home Pastime" outfit for our big $2500 cash prize contest, illustrated on page 25 of this issue. This is the biggest and best offer and most wonderful opportunity ever given to our readers. Act quick—today.

—The Editor.

FARM NEWS, Desk A, Springfield, Ohio

TO-DAY I ANNOUNCE MY $2,500 CASH Home Pastime

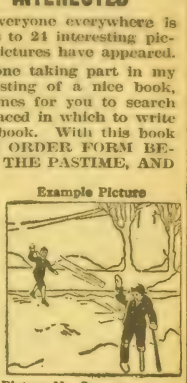
COMPLETE OUTFIT FOR PLAYING THE PASTIME FURNISHED TO ALL INTERESTED

I'm going to give away $2,500.00 in Cash, for playing my simple Home Pastime, and everyone everywhere is invited. No soliciting or canvassing is required. The Home Pastime consists of fitting names to 24 interesting pictures, and one or more of these pictures will be printed in my magazine each month until all 24 pictures have appeared.

COMPLETE OUTFIT GIVEN I will provide postage prepaid, to everyone taking part in my Home Pastime a Complete Outfit, consisting of a nice book, called the CATALOG AND REPLY BOOK. In this book will be found the official list of names for you to search thru to find fitting names for the 24 simple pictures. This book also contains pages nicely spaced in which to write your answers. All rules as well as other valuable helps and information will be found in this book. With this book you will find it easy and interesting to find fitting names to the 24 pictures. FILL IN THE ORDER FORM BELOW AND SEND FIFTY CENTS, AND YOU GET THE COMPLETE OUTFIT FOR PLAYING THE PASTIME, AND **FARM NEWS** FOR TWO YEARS, new, renewal, or extended subscription.

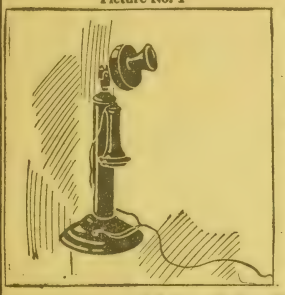
LOOK AT THIS EXAMPLE PICTURE

Example Picture



To the right is a picture of a boy throwing snowballs at a cripple. This example picture is not one of the regular pictures of the Pastime. I print same to show you how to fit a name to a picture. The boy is doing something mean, and shows clearly that he has a bad disposition. Therefore, if you think a good name for this picture is **"A Bad Boy,"** you surely have given the picture a good name. To be sure that such a name is in the alphabetical official list, you then look into the book and you will find, under "B," the title "A BAD BOY." You then will know that you have found a good name for the picture, and that it is official. That's all you need to do to find a good name to a picture.

Picture No. 1



Here Are The First Two Pictures

CUT THEM OUT AND KEEP THEM. Cut out and mail the order form below and get the Outfit. When you have the Official List of Names, look thru them to find a fitting name to these two pictures. Next month more pictures will be printed, and you cut them out of my magazine, save them, and find names in the List to fit, and so on. As you find fitting names, you write same in the Reply Book, and when you have completed your set, you mail same to me.

Picture No. 2

ALL 24 PICTURES GIVEN AT ONCE—FREE

WHY NOT GET ALL OF THE 24 PICTURES AT ONCE FREE, (without having to wait for them as they appear each month). JUST SEND PROMPTLY TO ME THE ORDER FORM BELOW WITH 50 CENTS, AND YOU WILL RECEIVE THE CATALOG AND REPLY BOOK COMPRISING THE OUTFIT AND ALL THE TWENTY-FOUR PICTURES, AND MY MAGAZINE FOR TWO YEARS. If you are already a subscriber I will extend your subscription for that length of time. BEAR IN MIND, EVERYONE CAN GET THE OUTFIT BY BEING A SUBSCRIBER UNDER THE TERMS MENTIONED HEREIN. I'll be glad to send anyone the Rules showing how to compete expenselessly, but why wait, send me fifty cents today and I'll send you the Complete Outfit, and all the 24 pictures and full directions for playing the Home Pastime by return mail. Use the order form below. *BE QUICK!*

MATT C. YOUNG, Publisher, Springfield, Ohio

Here's a Full List of the Cash I'll Give Away. You Should Easily Win

1st prize	$500 Cash
2nd prize	$400 Cash
3rd prize	$300 Cash
4th prize	$200 Cash
5th prize	$100 Cash

330 OTHER BIG CASH PRIZES, TOTALING IN ALL $2,500.00

Full prizes paid all final tying contestants.

I want you to be sure and play my Pastime. It's the greatest fun in the world, and I'm going to give away the $2,500 Cash positively.

50c Order Form—Send It To Me Today—Don't Delay

Matt C. Young, Publisher,
FARM NEWS, Springfield, Ohio

I accept your invitation, and am going after my share of the $2,500.00 cash. Therefore, find 50 cents enclosed for which send me your Magazine for two years, and the COMPLETE OUTFIT INCLUDING ALL THE 24 PICTURES AND FULL DIRECTIONS FOR PLAYING YOUR HOME PASTIME.

Name .....

Address .....

.....

If you are already a subscriber, you can if you wish have the magazine sent to someone else. Just notify me to whom magazine is to go.

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Mills. All Sizes. Hand and Power Write to-day for Free Illus. Catalog. WILSON BROS., Box 33 Easton, Pa.

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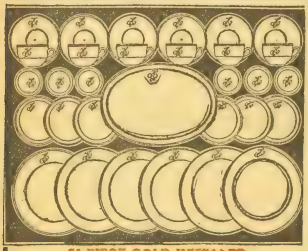

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For A Few Hours Easy Work
Every piece pure white, high grade china, blue edge and gold initialed. One of the richest looking, most stylish Dinner Sets on the market. Absolutely up-to-the-minute and of undisputable quality. Guaranteed not to crack. Will add beauty to any table. Get this set. Merely give away FREE 12 Beautiful Art Pictures 16x20 inches [sold for $1.00 each in many stores] with 12 cans of White Cloverine Salve, which you sell at 25c each. Millions using it for cuts, eczema, catarrh, colds, piles, burns, etc. Send us the $3.00 collected and the set is yours. We've been making these offers for 20 years. The Wilson plan is the easiest and absolutely square. No money required. Simply send name and address. Pictures and Salve sent promptly prepaid.
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Learn At Home
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Genuine full standard size railroad style watch with locomotive on dial and locomotive handsomely engraved on back. Full nickel plated case, extra dust proof, Arabic numerals on dial, heavy R. R. style figures. Genuine American make, stem wind and set, fully GUARANTEED for 5 YEARS. To advertise our business and introduce this wonderful watch and our great catalogue of Elgin, Waltham and Hampden watches we will send this elegant watch to any address by mail postpaid for ONLY $1.50 and if you sell two of these watches we will give you ONE SAMPLE WATCH FREE for your trouble. Send this advertisement with $1.50 for two and we will send ONE EXTRA WATCH FREE. Order today as this offer may not appear again. Address R. E. CHALMERS & CO., 538 So. Dearborn St., CHICAGO, ILL.

Feed For Egg-Production

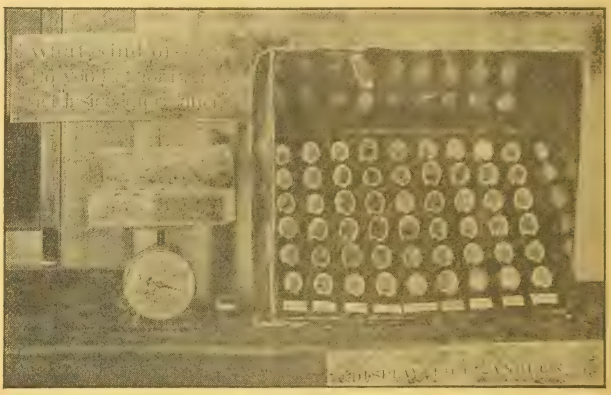
Common-Sense Dictates Selection of Feeds Containing Egg-Producing Properties

When laying 200 eggs in a year is not at all unusual. A four-pound hen laying this number will produce six times her weight in eggs. To do this she will require from seventy to eighty pounds of feed. For economical production it is necessary (1) that the food be properly selected, (2) that it be fed in correct proportion and in a judicious manner in order that her digestive organs may be kept in good condition, (3) that she be fed enough so that she has plenty of surplus for egg production.

The problems of poultry feeding require good judgment and keen observation. Hens fed for egg production should have foods high in the food elements which are found in eggs. Those fed in the fattening pens should have the foods which most economically produce fat. The best ration, then, is the one which supplies most economically the food requirements of the bird for the purpose for which it is kept.

It should be remembered that one of the principles of poultry feeding is that the hen cannot do well if fed on a whole grain ration. Not only does a ration of grain fail to furnish the proper food nutrients, but such a ration is difficult for the bird to digest properly. The great fault with the farmer in his poultry feeding is that he attempts to feed a whole grain ration, and generally only one grain at that. Such a ration results in poor egg-production and also causes digestive disorders and liver and kidney troubles. Complaints of this kind frequently come to the department of poultry husbandry, and a suggested change in the ration has usually resulted in the elimination of the trouble. Efficient digestion demands a combination of whole and ground grains. A ration should consist of grains and ground feeds. This depends, of course, upon the nature of the foods fed.

A good ration for egg-production can be made with a combination of grains and ground feeds. For grains, equal parts by weight of wheat and corn or in winter time twice as much corn as wheat, may be used. For ground feed, a mixture of equal parts of bran, shorts, and cornmeal may be used. Efficient egg-production requires also that this ration be supplemented with either sour milk—all that the birds will drink—or in case sour milk is not available, commercial beef scrap. One-fourth of the ground feed should consist of beef scrap in case this is used.



The advertising value of a unique display is here recognized.

The importance of keeping grit and oyster shell before the birds at all times cannot be overestimated, and is especially important during the winter months—H. L. Kempster.

"BRIGHTEN THE CORNER WHERE YOU ARE"

Billy Sunday makes a hit with this song wherever he goes, and it makes splendid advice for the decoration of the home in winter. This brightening can best be done by flowers in the windows. How much we appreciate the flowers we never know until we have them when everything is drear and gloomy outside, and the bright shades of flowers and leaves have given place to the somber shades of winter browns and grays. It is by comparison that we learn true values.

There is such a range of suitable plants for the windows that we can fit our pocketbook, no matter how slim it is. For those with good fat pocketbooks, ferns and begonias are very satisfactory plants, and they do not make so great a hole in our re-

serve fund as we might suppose either. Small plants of either can be purchased for ten or fifteen cents each, and twenty-five cents will get well-developed specimens that will make a quick show. There are so many kinds of begonias, and the foliage is so different, that a window full of these alone makes a nice collection. Many of them have fine flowers as well as beautiful foliage. Begonias do well in the ordinary windows, except the Rex type, which never do very well outside a greenhouse, where the air is kept moist, and the temperature does not vary greatly.

Geraniums make cheap and good plants, where they are started soon enough so the pots can become full of roots before the winter weather settles down. They must be potbound and have some sunlight to bloom in winter. The bruant type are the best, for they have splendid foliage and the blooms are much larger.

There are a number of the common garden annuals that will make fine window plants if taken up before frost and potted in good soil; verbenas, petunias, mignonette, nicotiana, violets, stocks, sweet alyssum, and many others that appeal to you. Nearly all the hardy annuals will bloom well in the house if cut back some when taken up. I must not fail to mention the vinca and ageratum, for they are two of the best. For constant blooming and fine deep green foliage, free from insects, I know of no plant that will excel the vinca. There are two shades, white and violet, and both are lovely. A plant will bloom constantly all winter, every tip having a flower on it almost all the time. The flowers are no good for cutting, but for window decoration they are not excelled.

Paper-white narcissus, hyacinths, and some other hardy bulbs; callas, freesias, Chinese sacred lilies and such tender bulbs; and tuberoses that have not yet bloomed, lifted from the ground in fall, all make fine flowers in the winter, and need little attention. By planting paper-white narcissus bulbs at intervals they can be had in bloom from Thanksgiving until spring, and they are very fine, provided their heavy fragrance is not objectionable. The Chinese sacred lilies are grown mostly in glass dishes and are held up by being surrounded by pebbles. Water supplies all the nourishment they need outside the bulb. The water should be changed every day to keep it fresh and pure. Do not use deep dishes, for that will stop the air from circulating about the bulbs and cause them to rot.

NOVEMBER GARDEN NOTES

Take up a few boxes of parsley and set the plants in the kitchen window. The sprays will be useful for garnishing during the latter part of the fall and the early part of winter.

Brussels sprouts need not be taken in. Freezing seems to improve the quality of the little heads, and they may even be dug out from beneath the snow as needed. The same is true of kale.

Cover the beds of parsnips and salsify with six inches of coarse stable manure, and the vegetables will continue to grow all winter, and come out in the spring with a fine flavor.

Mulch the bed of spinach with straw or some coarse material. This will make it possible to get at the greens earlier in the spring.

French endive is not grown by many gardeners, but will well repay a trial. Leave the roots in the ground until hard freezing weather, then store in the cellar until wanted for forcing.

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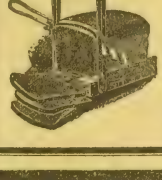
Chas. E. Benefiel Co., 284-K Industrial Bldg., Indianapolis, Ind.



Handy Bread and Bacon Slicer

Every housewife should have one of these convenient and necessary culinary helps. Any knife may be used; slices bread and bacon in uniform thickness. Don't pay the butcher for slicing bacon when this handy help may be had. Just the thing for slicing bread for sandwiches, luncheons, etc., wherever daintiness and pleasing service is desired.

Our Offer We will send this Handy Bread and Bacon Slicer, postpaid, to any address, upon receipt of 35 cents to pay for a one-year subscription to FARM NEWS, new or renewal. Address FARM NEWS, Dep't. BB, Springfield, Ohio.

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Let us send you our large, handsome illustrated book (32 large pages in colors) fully illustrated showing several methods and plans of placing and installing this closet. Pictures of homes and rooms, containing this wonderful device. Letters by the score from well known, reputable people who have had them in their own homes for two years or more. Hear the wonderful, unsolicited praise for this article. Letters from editors, doctors, judges and health authorities, all praising this truly wonderful invention; all ringing true and convincing. The book is sent to you free and prepaid. Get it. Send your name today.

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Name.....

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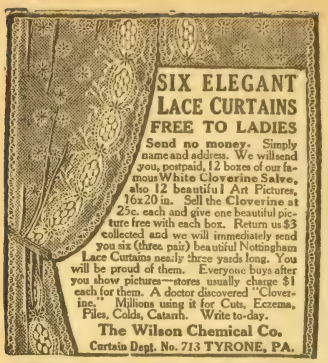

SIX ELEGANT LACE CURTAINS FREE TO LADIES

Send no money. Simply name and address. We will send you, postpaid, 12 boxes of our famous White Cloverine Salve, also 12 beautiful Art Pictures, 16x20 in. Sell the Cloverine at 25c. each and give one beautiful picture free with each box. Return us $3 collected and we will immediately send you six (three pair) beautiful Nottingham Lace Curtains nearly three yards long. You will be proud of them. Everyone buys after you show pictures—stores usually charge $1 each for them. A doctor discovered "Cloverine." Millions using it for Cuts, Eczema, Piles, Colds, Catarrh. Write to-day.

The Wilson Chemical Co.
Curtain Dept. No. 713 TYRONE, PA.

SILK

For Quilts—Pillows—Powder Bags

Can you use a big package of real silk remnants from a Necktie Factory? "Crazy Quilt" making is again very popular. Here is a bargain that will please you. Bright, handsome, odd-shaped and pretty colored goods accumulate very fast at necktie factories; the styles were never so bright and pretty as they have been the past season and they are now burdened with remnants of many rich goods. We have purchased thousands of pieces from the factories which we have made up in assorted packages for our friends. Haven't you found it difficult to get the right assortment to put into sofa pillows, quilts, etc? We can help you out now. Our packages contain the best quality assorted silks—enough for pillows or quilt—especially adapted to all sorts of fancy, art and needlework. 36 PRIZE-WINNING QUILT-BLOCK PATTERNS. These quilt block designs were selected from more than 800 patterns in a big Prize Winning Contest. Some of these are real historic designs, others are entirely new, but all of them are good and will appeal to the lover of beautiful and artistic quilts.

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FARM NEWS, Dept. R, Springfield, Ohio

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This book is the greatest time and labor saver ever offered to farmers. It is a great money-saver and money-maker. It shows how to accurately and instantly figure out any problem that may come up—how to figure estimates, wages, taxes and interest on any sum of money, any number of days, at any rate—tells bushels and pounds in load of grain; correct amount at any price; weight and prices of livestock; contents of cribs, wagons, bins, etc. A "lightning calculator" always ready when wanted. 128 pages OFFER:- This famous book free to anyone who sends 25c for a year's subscription to our widely read farm and home monthly.

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STOWELL & CO., Mfrs., Charlestown, Mass.

The Cook's Part at Butchering Time

(Continued from Page 24)

it small and put it in an iron kettle, which must be perfectly free from any musty or bad taste; set it over a steady, moderate fire, until nothing but scraps remain of the meat; the heat must be kept up, but gently, so that it may not burn the lard; spread a coarse cloth in a wire sieve and strain the liquor into the vessels in which you want to keep it. Squeeze out all the fat from the scraps into a vessel for immediate or home use; it may not be quite as clear as the first straining. When the lard is cold, press a piece of new muslin close upon it, trim it off at the edge, and keep the crock or can of lard in a cold place. To use one-third as much beef suet as hog fat makes an excellent lard.

Curing Hams.—Hang up the hams a week or ten days, the longer they hang, if kept perfectly sweet, the tenderer they are. Allow for each good-sized ham one teacup of salt, one tablespoon of molasses, and one ounce of saltpeter.

Lay the hams in a clean, dry tub; heat the mixture and rub well into the hams, especially around the bones and recesses; repeat the process once or twice, or until all the mixture has been used. Then let the hams lie two or three days, when they must be put in brine, strong enough to bear an egg, for three weeks. Then soak eight hours in cold water, hang up to dry in the kitchen or other more convenient place if you have one, for a week or more; then smoke from three to five days, being careful not to heat the hams. Corn-cobs and apple-tree wood are good for smoking. The juices are better retained if smoked with the hock down. Tie up carefully in bags.

Fresh meat may be kept sweet and good even in hot weather by lightly covering it with bran and hanging it in a dry clean place where there is a current of air.

An excellent way to preserve hams and shoulders is to cut them up and fully cook them, so that when warmed they are ready to serve. Cover the bottom of a stone jar with the gravy in which they were cooked, then put in a layer of ham, covering it with the liquor, and thus proceed with alternate layers of ham and gravy. To be sure of enough liquid to cover the meat, considerable lard should be used in cooking it, that all the liquor may be well seasoned, and not simply melted lard poured over the meat. Hams, shoulders and sausages prepared this way are as good the second year as the first.

Pig's Feet.—Wash in hot water and scrape clean with a sharp knife. Lay them in salt water over night to remove the blood. Put on to cook with enough cold water to cover. Have the water slightly salted. Cook from four to five hours, or until the bones loosen. Take out the meat, which should be chopped medium fine. Strain the liquor in the pot in which they were boiled and season to taste with salt, pepper and vinegar. Pack the meat in bowls or small crocks and cover it with the liquor. Add hot water if it needs diluting. When cold, pour melted lard over the top of what you do not want for immediate use.

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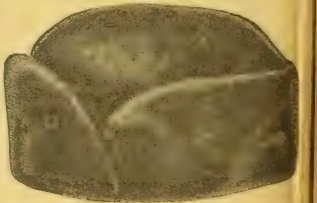

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Highest commissions, payable weekly, whole or part time. Write for particulars and terms. PERRY NURSERY CO., Rochester, N. Y. Established 21 years.

$25 WEEKLY Collecting names and addresses. Send stamp. SUPERBA CO., J. Baltimore, Md.

HOW WOODPECKERS SAVE OUR APPLES

By L. H. Cobb

No, I am not joking. I do honestly believe that we would have very few apples, probably so few we would give up and have none at all, if it were not for the help the woodpeckers give us. They are mighty good friends, and they stay on the job winter and summer. It is in winter that they do their best work in the orchard.

There are a great many different kinds of woodpeckers, and I expect you have seen several in nearby woodlands, or in your orchard. There are three kinds here that are especially active, and that we notice often, because they are all very distinct—the Yellowhammer, Redheaded Woodpecker, and the little white-and-black-spotted woodpecker. Of these three it has always seemed to me that the last was the best worker. I have watched them fly from tree to tree, starting at the foot of each, and circling them from bottom to top, pecking into every little crevice in the bark, until I did not see how a worm or bug could escape. This is what makes them so valuable in saving the apple crop.

Did you ever see an apple with a worm in its core? I know you have seen hundreds of them, because the woodpeckers have never been able to find them all, and even one or two missed will cause a good many wormy apples, as you will see when I tell you how they grow and do their destructive work. These worms are hatched from the eggs of the coddling-moth.

I do not expect you have seen many coddling moths, for they hide away during the day, and lay their eggs just as it begins to get dark. They are small, less than a half-inch long, and their color is a dull gray, which makes them look so much like the bark of the trees where they stay during the day that I expect even the woodpeckers have a hard time finding them. Each mother moth will lay five or six dozen eggs, and the eggs hatch in five or six days. The little apples which the worms are to feed upon are just about a month old when the worms hatch. The mother goes round and picks out the apples she wants the little worms to eat, and she lays the eggs on a leaf close by, so the little fellows will not have far to go when they hatch.

When they first come out of the shell they are so little you would hardly notice them, tho they have shiny black heads. It would take sixteen or more of them laid end to end to make an inch, but they are active and hungry, so they lose no time getting over to the apples and eating their way into the cores, where they feed on apple until they are fully grown. Sometimes the apples fall off, and sometimes they stay on the tree, but when the worms are grown they eat their way out of the apples and crawl to the trunk of the tree, where they weave a silk covering for themselves and go into the pupa stage, during which time they will not eat or cannot move around. This is the time when the woodpeckers do their best work for us, for they hunt faithfully for these silky coverings, or cocoons as they are called, and they quickly dig out the worm and eat it. The worms know this from instinct, and they hunt the deepest cracks and crevices in the bark to hide in, and many hide so well they are not found.

Now after awhile the cocoons that are not found will open, and little moths like the ones that laid the eggs will come out of them. In a few days these will begin to lay eggs, and this time many of the eggs will be laid on the apples, tho a good many will still be laid on the leaves near the apples. The little worms of the first brood nearly all entered the little apples thru the blossom end, but these later worms enter at the handiest spot, some going in at the side of the apple, and some from the stem end, tho most of them still go in thru the blossom end. Thru-out most of the United States this brood of worms will not be old enough to turn to moths the same year, but will spend the winter in the cocoons on the trunks of the trees, and come out early the next year to lay the eggs for the first brood of that season. In the South another brood is often reared. The worms we find in our fully grown apples are the second brood, or the third brood if we live in the South.

I think you can understand now how hard it would be to raise apples if the woodpeckers did not hunt faithfully for these little cocoons both winter and summer. Just think! every moth lays five or six dozen eggs, and if none of these were caught before they turned to millers (moths) there would be five or six dozen moths to lay eggs, and this crop would be three or four thousand. Just think again! every wormy apple that dropped from your trees this summer had a worm in it that turned to a moth, and every one of these moths, if nothing happens to

ALL OF THESE FREE

This lovely Gold plated stone-set Pendant and 18-in. Neck Chain and this handsomely designed stone-set Bracelet which opens to fit wrist and these 3 valuable Gold plated Rings, also this fine pair of sparkling Piercelass Ear Drops ALL GIVEN FREE for selling only 12 pieces of Jewelry at 10 cents each. We trust you and take back all not sold. A.K. DALE MFG. CO. Providence, R. I.

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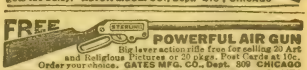

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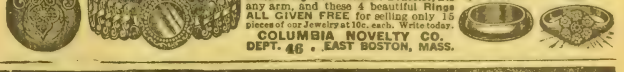

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We don't ask you to pay us a cent until you have used this wonderful modern white light in your own home ten days, then you may return it at our expense if not perfectly satisfied. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests by U. S. Government and 34 leading Universities show that it

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common kerosene (coal oil), no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. Won Gold Medal at Panama Exposition. Greatest invention of the age. Guaranteed.

1000 Reward will be given to the person who shows us an oil lamp equal to the new Aladdin in every way (details of offer given in our circular). We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is given free. Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get one free. Yours FREE

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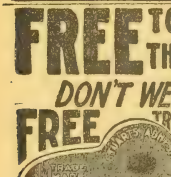
Men With Rigs Make $100 to $300 Per Mo. Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: *"I sold 11 the first seven days."* Christensen, Wis., says: *"Have never seen an article that sells so easily."* Norring, Iowa, says: *"98 per cent of homes visited bought."* Phillips, Ohio, says: *"Every customer becomes a friend and booster."* Kemerling, Minn., says: *"No flowery talk necessary. Sells itself."* Thousands who are coining money endorse the Aladdin just as strongly. NO MONEY REQUIRED. We furnish stock to reliable men to get started. Ask for our distributor's plan, and learn how to secure an appointment and make big money in unoccupied territory. State occupation, age, whether you have rig or auto; whether can work spare time or steady; when can start; townships most convenient for you to work.

FREE TO THE RUPTURED

DON'T WEAR A TRUSS

FREE TRIAL



Inner surface made self-adhesive purposely to prevent slipping and to keep constantly applied the absorbent-astringent medication called PLAPAO. Close the hernial opening as nature intended so the Rupture CAN'T come down.

Awarded Gold Medal and Grand Prix.

Do Away With Steel and Rubber Bands That Chafe and Pinch

You know by your own experience that the truss is a mere makeshift—a false prop against a collapsing wall—and that it is undermining your health. Why, then, continue to wear it? STUART'S PLAPAO-PADS are entirely different—being medicine applicators made self-adhesive purposely to prevent slipping and to hold the distended muscles securely in place. No straps, buckles or springs attached. No "digging in" or grinding pressure. Soft as Velvet—Flexible—Easy to Apply—Inexpensive. Continuous day and night treatment at home. No delay from work. Hundreds of people, old and young, have gone before an officer qualified to acknowledge oaths, and swore that the PLAPAO-PADS cured their Ruptures—some of them most aggravated cases—and of long standing.

Send Today For FREE PLAPAO—No Charge for it—Now or Ever

Simply write your name and address below. Send this advertisement for absolutely FREE TRIAL PLAPAO and 48-page Book on Rupture. No charge for it—now or ever. Nothing to be returned. "Be wise *today* 'tis madness to defer." Address, PLAPAO CO., Block 781 St. Louis, Mo.

Name.....*Address*.....

them, will produce three or four thousand worms to destroy apples next year. If half your apples were wormy this year, and three or four thousand times as many are to be wormy next year, where will your share come in?

While the woodpeckers do get a large proportion of the moths before they come out, we can help to get rid of those that escape, and, in spite of the woodpeckers, there will be hundreds of them. That is why we spray in the spring. Just after the blossoms fall from the trees the blossom end is open, but it does not stay open very long. By spraying with a poison just after the blooms fall we get the poison into that blossom end, called the calyx, and it closes over the poison. No matter how much the apples grows that calyx stays right at the end, and the poison is always right there waiting for the worm when he comes. The first brood of worms come along in about a month, enter the calyx, eat a little of the poison, and die right there without entering the apple at all. Still the poison stays there, and when the second brood comes along all that try to enter thru the blossom end, first eat a little poison and die. In an orchard that is well sprayed only the worms that enter thru the side of the apples or thru the stem end can get in at all. As these little worms will eat a little of the leaves before they get to the apple, people spray the trees again about the time the first brood hatches, in hopes they can get some of them in that manner, and they spray again when they think the second brood will be hatching, to try to get them.

NOVEMBER PUZZLEWITS

Prize Offers

Best list of answers to this months puzzles $1.00. Second best list, a book. All other correct answers are recorded, and 25 solutions entitle the solver to a book. Each puzzle published counts three points toward a prize. Send answers before November 28th to Uncle George, Farm News, Springfield, Ohio.

November Puzzles.

I. Word Building

How many words can you make from the letters in the word PUZZLEWITS without using the same letter twice in the same word.

Fayette, N. Y. U. N. Signed.

Uncle George will give a prize worth 50c for best answer to this puzzle:

II. Terminal Deletion

I can't keep WHOLE upon this work;
I find it humdrum, TWO too hard;
I never wished to be a clerk,
I'll just resign, so good-bye Pard.

Plainfield, N. J. Emma C.

III. Numerical Enigma

My whole, composed of 34 letters, is an important event which occurred in 1492. 1-7-12-4-5-6-21-22 is a vegetable. 34-31-32-26-27 is a bird with red breast. 2-16-23-28-3-33 is a bird of yellow and black plumage. 9-13-14-15 is a bird used as an emblem of peace. 24-25-30 is a domestic animal. 18-19-29-17 is a fish. 20-10-11-8 is a young girl.

Norwood, Va. Carrington Callaway.

IV. Transposition

ONE and TWO are coins.
A shelter is the THIRD.
The FOURTH will be deceitful.
And the FIFTH a bird.

Augusta, Me. Chris.

V. Jumbled Menu

Oottam posu. Kenchich. Tapsite. Ritfu daals, Sherdais, Casstibi, Ironamca, Passsaagru. Cide eta.

Gentryville, Ind. Diana.

Answers to August Puzzles

I. Wilson. II. Ohio, Idaho, Alabama, Florida, New York, Nevada, Utah, Maine. III. A stitch in time saves nine. IV. Dove, oven. V. 1 16 11 6 13 4 7 10 8 9 14 3 12 5 2 15.

August Prize Winners

First Prize: Oswald C. Ludwig, Washington, D. C.

Second Prize: Carrington Callaway, Norwood, Va.

Best Puzzles: Emma C. Howe, Plainfield, N. J.

99 lists of answers were received to August puzzles. Uncle George would like to publish the names of all the solvers, but space forbids. Uncle Geo. thanks you all for the interest shown. Come again. All are welcome, young or old.

Boys Automobile FREE

5 H. P. Gasoline Motor. Runs 60 miles on one gallon of gasoline. Speed up to 25 miles an hour. Built like a $2,000 Racing car. Wire wheels, three speeds forward and reverse. A regular Automobile—boy's size (or girl's).

This is the newest, latest and greatest thing ever invented for boys (or girls). A regular little motor car. It's the very thing you have been dreaming about and wanting. Here's your chance to get one all your own. This one will be given some boy or girl, for just a little effort on their part. Do you want it? Do you? ***I know you do.*** It's a regular gasoline automobile for boys and girls.

The picture above will give you some idea of this wonderful little racer. The design is the very latest in motor car construction. Notice the classy wire wheels, just like the big racers. See how happy the boy looks seated in the soft upholstered seat! Look at that racing hood!

Here's How the Car is Built

Tread or width 36 inches (3 feet;) length or wheelbase 66 inches (5½ feet.) Seats two or three passengers. Frame, pressed steel. Body pressed steel. Wheels, wire, interchangeable and ball bearing. Tires 20x2 (Firestone.) Springs, Cantilever type (latest). Brakes, foot and hand. Engine, 5 H. P., air-cooled gasoline motor. Ignition, magneto and battery. Speeds, three forward and reverse. Oil, splash system. Gas tank, two gallons (60 miles to a gallon). Axles, steel. Steering gear, metal spider, wood rim, polished. Color, blue, black trim. Pump, tool box, kit of tools—cost $250.00, but it will be given free. All fully guaranteed. Did you ever hear anything so good before? Do you still want one of these fine auto racers? You will be the envy of every boy and girl in your neighborhood, as you go sailing along in this regular little automobile, with the saucy, racy looking design. It's a whale, boys! If you want one, just write your name and address on the coupon below and mail it to me today. I'll tell you how to get it free. Be quick.

Harry Brydon, Mgr., Dept. 2Z, Springfield, Ohio

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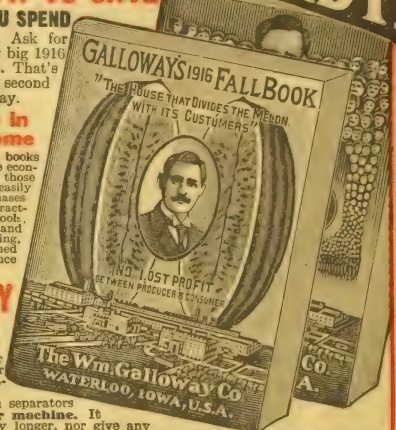
Make every dollar go as far as possible. These books show you how. They should be in every home where economy is practiced. Get them and compare my goods and my prices with those you have been paying and figure out the saving for yourself. You will easily see that these books will save you from $100 to $500 a year on your purchases including Gasoline Engines, Cream Separators, Manure Spreaders, Farm Tractors, Wagons, Buggies, Harness, Farm Implements and Farm Machinery, Tools, Roofing, Paint, Sewing Machines, Trunks, Washing Machines, Stoves and Ranges, Kitchen Utensils, Cutlery, Silverware, Dishes, Furniture, Clothing, Shoes, Auto Accessories and Sporting Goods. Don't waste your hard earned money paying high prices. Ask now for these two books and commence saving money at once.



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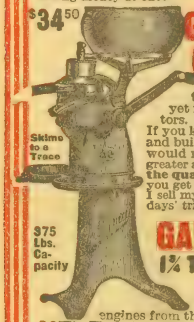

Here is the best separator ever built for the money. It skims as close as any separator yet it only costs a trifle more than cheap separators. This $34.50 size skims 375 pounds per hour. If you knew all there is to know about building cream separators and built one for yourself, **it would not be a better machine.** It would not run any easier, skim any closer, last any longer, nor give any greater all 'round satisfaction. **I build the quality into my separators** and you get the service out.

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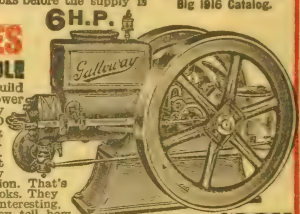

I make a line of gasoline engines that is unsurpassed. I build them here in Waterloo, right in my own factories—real power kings of their kind with plenty of surplus power. All of my engines from the smallest to the largest are BUILT RIGHT AND PRICED LOW! They give a lifetime of service on toughest jobs, because they are built to stand up and not overheat on the hardest kind of work. When you buy an engine, insist on large bore and low speed because your engine will last longer. Also insist on heavy weight because **it costs more to build a heavy engine.** Don't get fooled into buying high speed, light weight engines. Cheaper engines are always costly. They are priced low to throw dirt in your eyes. You ought to know all the facts about engine construction. That's why I urge you to get these two books. They are filled from cover to cover with interesting, instructive money-saving facts. They tell how to select the engine best suited to your needs. Ask for them today.

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$995

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Built with anti-friction bearings—21 sets Hyatt roller and ball bearings. Four cylinder, Waukesha Tractor Motor. Water-cooled, working parts protected. 12 h. p. guaranteed on the draw bar, 20 h. p. on the pulley; turns short; weighs 5000 lbs. Automobile type transmission patented, on which we have exclusive right. Not obtainable on any other tractor. This tractor saws, fills silos, grinds corn, grades roads, pulls stumps, handles a 28-inch grain separator; pulls three 14-inch bottoms 8 to 9 inches deep in clover or timothy sod. Double chain drive; gears run in bath of oil. Waukesha governor, engine never races. **Only two levers, to control this tractor.** Fully described in our two new books. Ask today.

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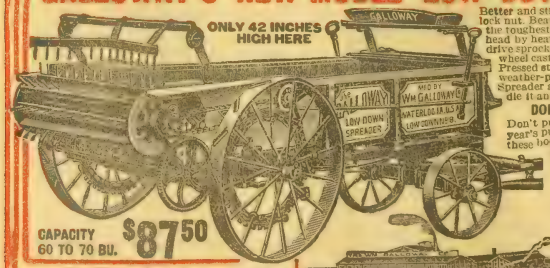

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F 175 Ag. R. R.

FARM NEWS

Springfield, Ohio December 1916

You Can Easily Give a Name to the Above Picture. See Page 2 for Full Details About Our New Home Pastime, in Which Thousands of Dollars Will Be Given Away as Prizes. You Only Have to Fit Names to a Few Pictures

THIS IS PICTURE NO. 3

THIS IS PICTURE NO. 4

Everyone, Everywhere, Accept My Great 50-Cent Offer Today and Win a Part of $2,500.00 in Cash

I want you and every member of your family to play my new Home Pastime. It will give you many an evening's entertainment, and those who play best will get the $2,500.00 in cash. It should be very easy for you to win a part of this cash.

My Home Pastime consists of 24 easy, plain pictures. One or more of these pictures will appear in my Magazine each month. Last month I published Pictures Nos. 1 and 2. On the top of this page you will find Picture No. 3 to the left, and Picture No. 4 to the right. The middle picture has nothing to do with the Pastime. Now, I'll give you ***all*** these 24 pictures at once, so that you won't have to clip them out from my magazine as they appear each month, if you will accept my splendid offer below.

This is the way I'll divide up the $2,500.00 in cash. I hope you'll play my Pastime and win your share:

1st	$500.00 Cash
2nd	$400.00 Cash
3rd	$300.00 Cash
4th	$200.00 Cash
5th	$100.00 Cash
3 of $50.00	Each in Cash
6 of $25.00	Each in Cash
2 of $20.00	Each in Cash
3 of $15.00	Each in Cash
11 of $10.00	Each in Cash
50 of $ 5.00	Each in Cash
255 of $ 1.00	Each in Cash

Full prizes paid all final tying contestants.

All you have to do is to fit names to these 24 pictures. You can do it easily, too, if you get my ***Official List of Names,*** alphabetically arranged and which contains ALL the names to the 24 pictures. You simply go thru this ***Official List of Names*** and pick out those names that fit the 24 pictures BEST. Then you write down your selected names in my handy ***Reply Book.***

I will give you all these 24 pictures at once free (so you won't have to wait for them to appear in my magazine) if you will send me immediately the special order form below with 50 cents. For this 50 cents you will receive postage prepaid, ALL THE 24 PICTURES, THE OFFICIAL LIST OF NAMES AND REPLY BOOK, RULES AND FULL DIRECTIONS FOR PLAYING, ALSO A TWO-YEAR SUBSCRIPTION TO MY MAGAZINE. If you are at present a subscriber, your subscription will be extended, or you can have it sent to a relative or friend.

You must hurry and send me your 50 cents if you want all the 24 pictures free with the outfit, as I reserve the right to discontinue this offer at any time. (I will not withdraw this offer until I first announce it in this magazine.)

ACCEPT MY SPECIAL OFFER TODAY—DON'T DELAY

All the 24 Pictures, the Official List of Names, Reply Book and full directions and rules for playing my $2,500.00 Cash Home Pastime, and also a two-year subscription to my magazine, all for 50 Cents Begin playing at once—send in the order form below with 50 cents right now—win your share of the $2,500.00 Cash.

50 Cent Special Order Form—Send It To Me Today Sure

MATT C. YOUNG, Publisher, Springfield, O.
I enclose 50 cents, for which send me your magazine for two years, and as a gift send me postage prepaid, ALL the 24 pictures, Official List of Names, Reply Book, Rules and full directions for playing your $2,500.00 Cash Home Pastime.

Name .....

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State .....

Remember, 50 cents brings you the Complete Home Pastime Outfit, and this is all you need to enter and play my new Home Pastime. F.N.

AN EXAMPLE PICTURE

Look at the little example picture here. It plainly shows a man speaking before some other men. Well, the Official List of names, under the letter "S" shows the name "The Speaker." Isn't that a splendid name for it? You should be able to find the BEST names to the 24 easy pictures just as easily.

Anyone can play the Home Pastime without expense by drawing each picture (not tracing) on a separate sheet of paper about four inches in size, and writing down beneath each picture the name selected for it and name and address. We will furnish free on request to one public library in any city or town the Official Catalog of Names and the 24 pictures where they can be consulted (but not taken away) free by anyone, but the best way is to GET YOUR COMPLETE COMPETITION OUTFIT AT ONCE and start after your share of the $2,500.00 in cash.

MATT C. YOUNG, Publisher, Springfield, Ohio

Spontaneous Combustion

A Cause of Many Fires Which Might With Proper Care and Watchfulness be Avoided

By E. V. Laughlin

WITHOUT doubt spontaneous combustion is one of the causes of many fires whose origin is generally listed as being unknown. The fact that so many barns burn during the summer months when new hay is being stored, and that residences catch fire mysteriously during the autumn and winter months, when coal is being housed, is significant. Chemists are beginning to believe that many of these fires are traceable to this chemical phenomena known as spontaneous combustion, and not to the passing vagrant, as is so often suggested.

Spontaneous combustion is the catching on fire of easily combustible substances thru excessive oxidation. All things around us, it may be well to say, are oxidizing continually, but the process is usually so slow that we are scarcely aware of it. Rotting, decaying, rusting, tarnishing, the heating of compost and garbage heaps, are all evidences of this universal phenomena. When, however, thru the presence of certain unusual conditions, oxidation becomes very rapid, sufficient heat may be generated to ignite easily combustible substances. Moisture, non-ventilation, and the presence of certain easily oxidizable substances, such as linseed oil, are the principal sources of this excessive oxidation.

Let us consider first what happens when imperfectly cured hay is mowed in close barns. Such hay contains sap moisture not yet liberated by exposure to air and sunshine. When such hay is packed tightly in a close mow the escaping moisture is retained and stimulates the union of atmospheric oxygen with the carbon of the hay. The heat thus generated is retained, and gradually increases in amount. If the conditions for this phenomena are ideal, the accumulating heat eventually becomes great enough to ignite the dryer parts of the hay or other inflammable material near by. Ventilation, however, reduces the temperature by mingling cooler air with that which is locally heated, thus keeping the temperature below the kindling point. The writer has observed a temperature of 160 degrees within the interior of a compost heap while the outside was freezing.

Small masses of uncured hay seldom generate sufficient heat to catch on fire, because the excessive heat is conducted away too rapidly. The interior of a bale of hay is for this reason seldom damaged beyond moulding. If, however, the hay is in large masses, the heat generated in the interior is retained thru the insulating effect of the large masses around. This heat stimulates additional oxidation, and the process becomes a cumulative one. The danger therefore lies in the storing of large amounts of hay. Especially is this true if the hay is placed upon old hay or straw. The under portions of the new hay, being well insulated against the loss of heat by the large overlying masses, become hot enough to set fire to the old hay. The fire smoulders until it reaches an opening. The flames then spread rapidly.

The action in large masses of coal, if somewhat damp, is quite similar to that taking place in hay. The interior, or underneath parts, oxidize and generate enough heat to fire the entire mass. This in like manner remains subdued until the fire works to the exterior. The action is slower than in hay, because of greater difficulty of igniting coal. The danger is greater in dust or powdered coal, because oxidation in such coal begins and proceeds more rapidly than in the lump varieties.

Recently the writer read an article telling of a fire that started in this manner in the coal stored in the basement of a public school-building. When discovered the mass had just begun to smoke. We can only conjecture what might have happened had the fire reached this stage undiscovered after the building had been closed for the day.

Perhaps the most insidious source of fire in residences is from spontaneous combustion originating from bundles of oily rags. Such rubbish is frequently stored away in closets and out-of-the-way nooks, thinking that it may come in handy some time. Beyond doubt many homes have been destroyed through overzeal on the part of housewife or domestic in removing from view rags used in polishing freshly oiled floors. Linseed oil and other oils tend to oxidize rapidly, especially if much surface is exposed. Such expanse of surface is secured in saturated rags. If the rags are rolled together the heat generated is retained, and may easily become enough to set fire to the rags. Insomuch as the rags are often hidden from view in the closets, the fire gains headway before being discovered. Besides, closets being warm and non-ventilated, furnish ideal conditions for this form of oxidation.

While spontaneous combustion is not confined to these three—uncured hay, damp coal and oily rags—the greatest danger lies here. Damp sawdust, oily wool, wet cotton, and a few other conditions are occasional sources of danger. Of all of these uncured hay and oily rags are especially to be guarded against. It is well that farmers be acquainted with the danger here, and that housewives realize that dangerous chemical reactions may result from saving oil-stained rags and clothing saturated with paint.

Mr. French, a widower, was expected to visit the Doyle family. The two children had never seen the guest and was very much interested in the conversation of the parents regarding him.

"Harry," asked six-year-old Bessie, of her little brother, when they were alone, "what's a widower?"

"Why, Bessie, I'm surprised at you," replied the boy. "It's the husband of a widow, of course."

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Last Season's Potato Problems

Were Not Bugbears to Potato-Growers Who Used Preparatory and Control Measures

By Howard I. Wood

ONE year ago, when the commercial potato crop had been dug, it was found that the problems of the season which had caused a short crop were scab, dry rot, and particularly, late blight. Now the crop of the present year has been dug, and it is found other conditions are responsible for the short crop of this season.

But the interesting point to consider concerning both years, is that the same preparatory and control measures which made some growers very successful again this year. In other words, the fellow who does not pay much attention to how he prepares his seed-bed, who did not make a special effort to obtain good quality in the seed he plants, and who did not spray sufficiently to protect his potatoes from potato beetles and blight, did not make much of his crop in either 1915 or 1916, and he is not likely to make much in 1917.

Why? Well, perhaps once in ten years he will strike a year when the worst kind of mismanagement cannot prevent him from realizing a bumper crop. But in such a year all of the other fellows who use slack methods will probably also have bumper crops, and the market prices will be anything but bumper.

But the fellow who can turn out a bumper crop in such a year of grace as the present, when in the big cities the housewife is paying from fifty to seventy-five cents per peck for averagely good table-stock, is the fellow who is going to make some profit in raising potatoes every year, and he is going to make mighty big profit in a considerable number of years. He will make profit in the year when prices are low, because he will be able to place on the market carefully grown, select stock which will command a premium over the average stock. He will make big profit in years of high prices, such as the present, because anyone who has potatoes for sale today can take a big profit, and he will make more than the fellow who has only indifferent stock to offer, because he has select stock.

A few days ago I had a talk with J. G. Milward, secretary of the Wisconsin Potato Growers' Association, just after he had completed an extended survey of the commercial potato situation in upper Wisconsin. It was his conclusion, that altho the problems which the growers had to face this year were altogether different than those that confronted them in 1915, this year had demonstrated to the nth degree that to succeed year in and year out with potatoes, the growers must adopt the best methods laid down by such valuable organizations as the Wisconsin Potato Growers' Association.

Fifty-five acres of certified seed stock in the growing stage in Marinette county, Wisconsin

Mr. Milward, who is recognized as one of the best authorities in the country on potato culture and marketing, has long laid emphasis on the need of care from one end to the other of the commercial potato-raising business, and he says that he has never had such proof of the value of special care as in the present year.

Sun-scald and other ills of a dry summer were the problems which the growers faced during the season just past. Beetles were also a worse pest than in the year 1915. But as compensation for the new problems there was no difficulty with blight and rot.

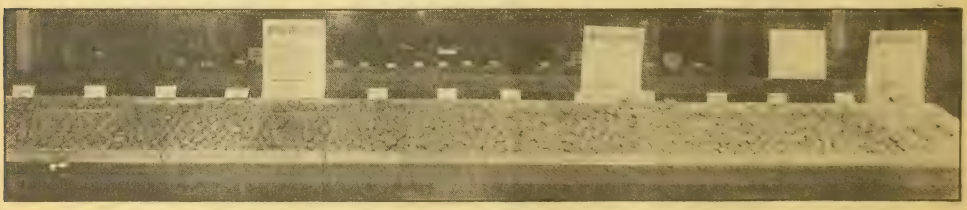
I asked Mr. Milward for an expression of what he considered the lesson of the growing season.

"You can say," he stated, "that the grower who prepared his seed-bed with care and intelligence, who planted certified seed-stock or other good seek-stock true to type, who sprayed from four to five times, or as many times as conditions warranted, who cultivated properly and who followed to the best of his ability the recommendations of the best growers in the state association, has been successful this season, just as he is in practically every season. Commercial potato growing can be transposed from a game of chance only by making it a business to which you lend the best there is in you, and follow the best methods known to those who have been successful.

This year, more than ever before, attention has been given in Wisconsin to improving market conditions. Of course, with the shortage in the crop this season, and the extra demand due to the war, there is no trouble in disposing of all the available stock at fancy prices. But the efforts toward better prices are being made with a view to bringing about conditions which will make it reasonably likely that in no year will the market sag to a point where the careful and intelligent grower cannot realize a substantial profit.

It appears now that the best opportunity to realize profit on potato-growing the next five to ten years, will be in the production and sale of certified seed-stock—purebred Rurals, Green Mountains, Cobblers, Early Ohios, Triumphs, or some other standard

(Continued on Page 22)



Exhibiting stock just as dug from the hills at a Wisconsin show as a means of comparing hill-run stock from sorted and selected stock exhibited in other parts of the show

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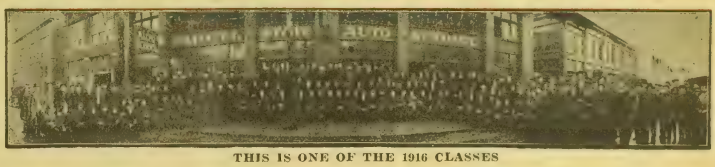

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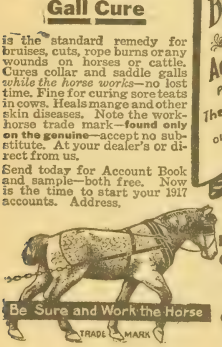


The Bickmore Company

Box 950

Old Town, Maine

For the Beginner With Hogs

Some Practical Advice Which May Well Be Heeded By Those of Broader Experience

By Lester J. Meredith

"Mr. Lester J. Meredith:

"Please give me some good advice as to how you operate your business. I own 100 acres, three miles from town and I want to go in the business of raising and feeding hogs for market exclusively. Do you think there would be money in it for me? What kind of hogs do you have and what do you do for a preventive for cholera? What kind of pasture and grain do you prefer? How many hogs ought this 100 acres raise per year, good soil? Please give me all the information you can, for I have had no experience with hogs. Thanking you for your valued advice, I beg to remain

"Yours truly,
"W. J. Hobbs."

Before undertaking any definite system of pig farming on his 100 acres of good soil, I would suggest that our inquirer invest about one hundred dollars in six well-bred young sows, preferably high grades of the Berkshire breed, and about twenty-five dollars in a good young Berkshire boar, a purebred, but not necessarily registered. This will give him a good start, and by keeping over a few of the best sow pigs for breeding purposes he will soon be in possession of enough good sows of the desired type to make up an efficient breeding herd.

It is always better for one who lacks the necessary experience to begin in a moderate way, and study the business as he goes along. Hogs increase in numbers so rapidly that there is absolutely no excuse for a beginner to overstock his premises with a lot of inferior breeding-animals, besides it is always cheaper and far more satisfactory, to breed and develop his own pigs for breeding purposes. By selecting six promising young sows, and mating them with a good Berkshire boar, he will have made a start in the right direction.

Then by buying a young Berkshire boar each year, and disposing of one of the older ones, the growth obtained by feeding the older boar during the year will go a long ways toward paying for the younger animal. Altho it might not be necessary, in order to obtain satisfactory results, it is better to keep over an aged sire to mate with the young sows, and to mate the older sows with the younger sire.

For economy and efficiency in handling the breeding-hogs and the growing pigs the colony system has many advantages, especially in a mild climate. It costs but little to build the colony houses, and it makes it possible to provide better sanitation and the more general use of pasture and forage crops. The animals are living under more natural conditions than is the case when confined in a centralized house and given the run of small yards. If the lots are properly arranged, the feeding will require no great amount of time, there will be less trouble from vermin and spoiled feed. A two-wheeled cart, or low truck or wagon with sufficient capacity, may be used for feeding.

With the individual system the danger of disease is minimized, and in case of an outbreak the loss resulting from the destruction of one or two of the small houses would be small compared with the cost of rendering a large house safe for further use. There are a number of styles of individual houses that may be built at a cost of from $12 to $20 each, but a house with a floor 8 feet by 8 feet will be found well adapted to almost all conditions. With a window hinged at the top, and arranged so that it may be left partially open, it is impossible to regulate the temperature and ventilation of the house during cold weather. I would advise making the sides 9 feet high. This gives more air space and better ventilation.

If lined with tar paper, and sided with matched lumber, the sow can farrow in comfort in very cold weather. The houses shoud be set on dry spots, and may be moved from one lot to another, as the occasion requires. If the lots have a few trees in them, other shade will not be necessary, but if they are in the open, artificial shade will be required if the herd is to be kept thrifty and comfortable. Sunshades may be easily constructed by

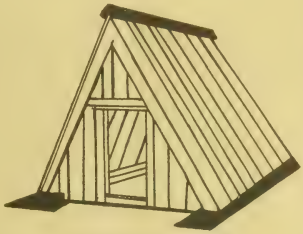
The type of hog which yields large profit when properly handled

setting posts to support a flat roof of boards and straw. These shades should be located on a high point, so that the animals will get the full benefit of any breeze.

In planning for food crops first attention should be devoted to getting forage crops and grasses started in the yards and feed-lots. By planning a short rotation system of oats and peas, cowpeas, soybeans, rape, vetch, alfalfa, clover and bluegrass, one can keep some of the land seeded with permanent forage and pasture crops, and utilize the balance for quick-growing crops. By getting a portion of the land seeded to alfalfa one can pasture the crop moderately and cut the balance of the crop for winter feeding. This prevents the hogs from injuring the crowns of the alfalfa plants and insures a supply of bulky, succulent food for winter feeding.

On our inquirer's 100-acre farm I would suggest that about 20 acres be fenced off into lots for quick-growing forage crops, 10 acres for alfalfa and 10 acres for bluegrass. This would leave 60 acres for corn and other grain. By sowing rape and soybeans in the cornfield at the last cultivation of the crop, and allowing the hogs to hog down the crop in the fall, it would undoubtedly pay to buy considerable corn and mill-feed for use at other times during the year. After using the 20 acres for yards and pasture-lots, the pastures and fences should be changed to other parts of the farm, and the land plowed and planted to corn, followed by small grain crops. Utilizing the land for growing a green forage crop, and plowing down the stubble and droppings of the hogs, is a very effective way of building up the fertility of the soil for grain and other green forage crops. And when the grain crops are hogged down there is less fertility removed than when the crops are removed from the field and fed to animals kept in small feed-yards. Seeding rape, soybeans and the like in the cornfield adds greatly to the supply of hog feed, and these feeds help to balance up the excess fats and carbohydrates in the corn crop. So much depends upon the climate of the locality and the character of the soil that it is rather hard for one to advise intelligently regarding the selection of forage crops, time of seeding and method of rotating them to produce the greatest amount of growth at the right time, but with rape, oats and peas, rye, alfalfa, soybeans, cowpeas, clover and corn to be hogged down, it will be comparatively easy to have an abundant supply of green forage crops for the hogs at all times during the growing season.

Gains made on pasture, or with supplemental green forage, are almost always cheaper than gains made in feeding in the old dry-lot way. Practically every experiment station investigation proves that a well-planned system of forage crops, such as I have described, cuts down the cost of producing a pound of gain from 30 to 40 per cent. With forage supplements, gains are not only made at a very low cost per pound, but they are made quickly, thus reducing the element of risk that must always be considered a vital factor in feeding hogs. With 100 acres of good land as a basis, I should say that one could safely purchase two or three thousand bushels of corn and several tons of mill-feed and tankage to feed out annually, and utilize all of the 100 acres for growing forage crops and grain to be hogged down for finishing the spring pigs for market in the fall. Such a system of feeding should provide liberally for maintaining the fertility of the soil, and pay good profits to the owner.



Portable "A" hog-house

The only way to prevent cholera gaining a foothold in the herd, provided it is in the neighborhood, is to practice sanitary measures of precaution, and have the hogs immuned. There are several firms that have laboratories for making the serum needed to render the hogs immune from cholera, and any competent veterinary can administer the serum. It is always better to employ a competent veterinary to do the work. By getting in touch with your county agent or experiment-station staff you should be able to get all of the information needed to protect your herd from cholera. These men understand the ins and outs of handling the serum, and know veterinarians who are capable of handling the disease and injecting the serum.

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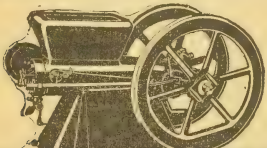

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In the Poultry Yard

Points About Selection For Breeding and Laying Which Are of Interest

IN ORDER that we might help solve the problems confronting the poultrymen in the selection of breeders, a question was sent to the members of the State Association, asking them to give the points they used in selecting their breeders.

Five hundred twenty-three answers were received, which were distributed as follows:

Color, 79; standard requirements, 67; egg records, 63; vigor or vitality, 48; size, 44; shape, 43; early maturing, 30; buying from others, 28; general appearance, 18; Hogan test, 17; type, 13; health, 10; winter layers, 8; no selection, 7; close culling, 6; size of bone, 5; comb, 4; comparison, 4; eye color, 3; line breeding, 3; activity, 3; utility, 3; best hens, 2; selecting males, 2; leg color in May, 2; selecting unrelated, 2; condition, 1; development of feathers, 1; physical test, 1; high head and tail, 1; late moulters, 1; common sense, 1; age, 1; gamest, 1; head points, 1; total, 523.

A close study of the above list indicates that the breeders in general are using some good points in the selection of breeders. It will be observed that by far the largest per cent. of people select breeders by egg-production and standard requirements, including color, vigor, size, shape, etc. It will also be noticed that the external characters, which can be observed with the eye, are used more than egg-records, which require time and labor. This would indicate that great good can be done in developing simple methods of selecting egg-producers.

In order to complete this observation, a test was made with two hens as follows: Two White Leghorn hens were selected as typical of high and low egg-producers. The high producer had a well-developed comb, white ear-lobes, bleached shanks, had not moulted, and was a good wedge shape. The other had a small pale comb, creamy ear-lobes, yellow shanks, had moulted, had a nice coat of new feathers, and the body was small and ill-shaped. The two hens were exhibited at the Missouri State Fair, and were given to the person estimating most accurately the number of eggs produced by each in six months, from January to July.

The blanks on which the estimates were recorded contained a space to give reasons for making the estimates. The good hen produced 125 eggs, while the poor hen laid 52 during the six months. Approximately 75 per cent. of the people overestimated each of the hens. All estimates averaged missing the good hen 30 eggs each, while they missed the low-producer 43 eggs each. Approximately 50 per cent. of the people gave reasons for their estimates. All who gave reasons for estimates averaged missing the good hen 21 eggs, while those who didn't give reasons missed the record 39 eggs, or a difference of 18 eggs.

The hens were won by a seventeen-year-old boy of Sedalia, Mo., who raises some Leghorns on a city lot. He estimated the good hen to lay 125 eggs, and gave as reason for the estimate a large, red comb and pale shanks. He estimated the poor hen to lay 50 eggs, and gave as reasons for the estimate pale comb and yellow shanks.

This emphasizes the fact that there are simple, practical methods of selection for egg-production, which the average person can use, and if these methods are observed, the flock can be culled in such a way that the one part will produce two eggs to one produced by the other.

EFFECTIVE METHOD FOR DESTROYING POULTRY LICE

Entomologists of the United States department of agriculture have demonstrated that all species of lice which infest poultry may be quickly destroyed by the application of a very small quantity of sodium fluorid, according to the annual report of the chief of the bureau of entomology, just issued. Entire flocks of poultry were cleared of the parasites in this way, and were found to remain free when ordinary precautions were taken against reinfestation by contact with infested fowls.

In connection with this work the entomologists of the department made the first complete studies of the chicken mite, and determined that it depends exclusively upon the fowl for its food, and will not develop in any stage on filth or similar substances. In tests of a large series of insecticides, it was found that a few thoro applications of crude petroleum to the interior of poultry-houses will completely destroy the mites.

PROFIT IN FATTENING POULTRY IN BATTERIES

An average increased profit of 10 cents a bird was realized recently by poultrymen in Sandusky county from five poultry fattening demonstrations. Seventy-five birds were fed for 12½ days in fattening batteries, or crates. The total gain was 88 pounds and six ounces, or 34.4 per cent. The cost of gain was 7.6 cents per pound.

Some of the poultry brought from two to three cents above the market price from the local dealer. They were of much better quality than ordinary market poultry and had a higher dressing percentage.

The ration fed to the chickens in each battery consisted of 60 pounds of corn meal, 40 pounds of wheat middlings and five pounds of beef scrap. This was mixed with the skim milk in the proportion of one and one-half pounds of skim milk to one pound of dry feed.

Each battery used in the demonstration holds from 15 to 25 fowls and is divided into three compartments. Two are used for cockerels weighing about three pounds apiece and the other for hens of any size or age.

The demonstration was arranged by K. C. Egbert, the Sandusky county agricultural agent.

CHRISTMAS IN THE COUNTRY

By Jane E. Clemmens

Christmas in the country forty years ago was a different affair from what it is now. I never think of Christmas in those days without thinking of a lovely winter day, bright with sunshine and snow everywhere—large drifts, thru which the horses floundered as they drew the stout sled on which was a wagon-bed filled with hay, and covered with blankets and buffalo-robes, where we cuddled down, as we rode merrily away to spend Christmas at grandpa's.

We could hardly wait till the horses stopped, and I remember how one year father did not think about the big stone near the kitchen door which was covered with snow, and bump we went and over we turned, but the gasoline did not explode when our sled turned turtle, and what a jolly time we had picking ourselves up and shaking off the snow.

Our aunts, uncles and cousins were all there to share the good times and delicious eats. A bright fire burned in the dear old fireplace, and there, suspended by a stout string from the ceiling, was a great turkey packed full of dressing and sending forth a most delicious odor as it turned round and round, gradually browning before the fire, the savory juice dripping into a great pan on the brick hearth. From this pan grandma occasionally dipped the juice with a huge iron spoon and poured it over the crisp sides of the turkey.

Other preparations were going on meanwhile in the kitchen where a brand-new cooking-stove held the place of honor. Cooking stoves were very rare in those days, more of a novelty than fireless-cookers are today. The neighbors had come miles to see that new stove, and express their fears as to the probability of its "blowing up." This cook-stove, however, even in all its glory, was not equal to cooking such a large turkey in its small oven. A coffee-boiler sent out a delicious odor of strong and fragrant coffee, and at every breath our nostrils were filled with the smell of good things to eat.

The long table was covered with snowy linen (the work of grandma's own hands) and decked with the old family silver and china.

As soon as the turkey was pronounced done, and the gravy made in the dripping-pan, the chairs were placed near the table and we were called to dinner. No one was left to wait, there was room for the children, too, and such a merry time! After grandpa had asked the blessing on the food, he carved the turkey and supplied our waiting plates bountifully with any piece we wished, together with all manner of good things.

After dinner we children played games in the kitchen, popped corn, cracked nuts and played blindman's buff, while the older folks "visited" in the big living-room until the time came to return home.

Boiled Ham.—Pour boiling water over the ham, and when cool enough scrape and wash clean. Put in a boiler and cover with cold water, bring quickly to boiling point, then place on the back of the range to boil gently for three or four hours according to the size. Cook until easily pricked with a fork. Turn the ham once or twice in the water. When done take up and put into a baking-pan to skin. Dip the hands in cold water, take the skin between the fingers and peel as you would an orange. Set in a moderate oven and bake one hour; this draws out the superfluous fat, leaving the meat more delicate. To glaze, sprinkle with sugar and a hot knife over it, or brush it over with the well-beaten yolk of an egg, sprinkle well with grated cracker- or bread-crumbs, and cover it with sweet cream; then return to the oven to brown.

Baked Ham.—Soak the ham for an hour and wipe it dry. Next spread it all over with thin batter. It should be baked in a deep dish with sticks under it to keep it out of the gravy. When fully done, remove the skin and batter crusted on the flesh side and set aside to cool. It should bake slowly from six to eight hours. After removing the skin you can sprinkle over it two tablespoonfuls of sugar, some pepper and powdered crackers, and return to the oven to brown. When nicely browned, take up and stick cloves thru the fat, and dust lightly with powdered cinnamon.

Head Cheese. — Take the heads, tongues, and feet of young, fresh pork, or any other pieces that are convenient. Having removed the skin, boil them till all the meat is quite tender and can be easily stripped from the bones. Then chop fine or run it thru the food-chopper. Season with salt and pepper, and ground cloves, or sage leaves rubbed to a powder. Mix it all well with your hand. Put it into deep pans with straight sides and press it down hard and firm with a plate or cover that will fit the pan. Place a heavy weight on it. In two or three days turn it out of the pan and cut in thin slices. Serve with mustard and vinegar.

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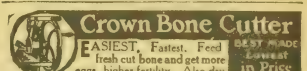

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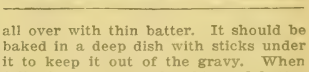

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Care of the Dry Cow

A Pertinent Question in the Dairy Where Decisions May Mean Irreparable Loss

By John Underwood

DURING the period the cow is dry, it is usually the case that she does not receive as good care and attention as when she is milking regularly, but this is a great mistake. The cow must have a rest, and during this time she should have the best of feed and care, because her system has become run down by the past ten or eleven months work in the production of milk and the demands made upon her by the calf she is carrying.

The better we care for her when dry the better she will do when she again begins giving milk. It is the nature of a cow to go dry, and she will usually do it of her own accord. But why is it her nature? Just as it is the nature of a Jersey to conform with the Jersey type and a Holstein to be black and white. It is a characteristic which has been bred into her ever since the beginning of the development of the dairy cow.

This does not mean that the men who founded and improved the breeds selected cows which would go dry for a certain period, but they did select cows that would give a large volume of milk per year, and do it for several years. The heavy-milking cow that is milked right up to calving, year after year, and not allowed a rest, usually gets worn out in a few years, owing to the great and continuous strain on her constitution.

I have on my farm at the present time some deep milkers that would milk from one calving time to the next if I should continue milking them, but I always allow them a period of rest. I consider two months the longest time a cow should be dry, altho some will remain dry for three or four months. Six weeks may be considered the proper length of time for any cow. The cow that remains dry for three or four months is usually a poor one.

The ration for the dry cow should be formulated with three things in mind, namely, to furnish a sufficient amount of protein to properly develop the fetus and allow a surplus for the needs of the body of the cow; to supply enough carbohydrates that the cow may lay on a little fat and to supply succulence. Some kind of green food is very essential in the ration for the cow at all times. It serves the purpose of maintaining the bowels in a loose condition, which is necessary to good digestion and assimilation of the food.

Corn silage is undoubtedly the best feed to supply succulence, altho in the absence of this it can be supplied by dried beet pulp or roots. Alfalfa hay, clover hay, oats and pea hay, cottonseed-meal, oilmeal and oats are most common among the protein feeds, while the carbohydrates portion of the ration is usually furnished by the corn plant or other similar feeds. The dry cow must have plenty of good water, and on very cold days in winter it is a good plan to warm it just enough to take the chill off.

When cows are forced to drink ice-cold water in zero weather, they will turn away from it before they have consumed enough to meet their requirements. If salt is sprinkled over the fodder portion of her ration, or otherwise supplied at intervals of two or three times a week, it will assist in keeping her system in good tone. The stall in which she is kept should be supplied with good bedding, which, when soiled, should be removed, and a fresh supply added.

When the weather will permit, the cow should be allowed to remain outside of the barn, and not kept confined all the time during the few weeks she is resting from milk secretion. Sunshine, fresh air and exercise are quite necessary to the well-doing of any mother during the period of gestation, and the dairy cow is no exception. The most kind and gentle treatment at all times is very important.

TO BRING THE BUTTER

It seems to be the usual experience that when cows have been giving milk for several months, the cream taken from their milk is hard to churn. Many an hour has been wasted in the effort to bring the butter that would not "come". I recall an experience we had several years ago, before we began to use a separator, when we lost every churning in six weeks but two.

Nearly every one to whom the difficulty is mentioned has a cure for it, and I have been advised to try almost everything from salt to soda. None of these things gave the desired results, and finally, as are required in treating desperate diseases, I heated the cream up to 85 degrees, put it in the churn and went to churning. In somewhere between 15 and 20 minutes the butter had come, and tho it might possibly fail to pass as No. 1, still it was of very fair quality, while the buttermilk was very thin, showing no trace of cream.

I have since found that the quality of the butter can be improved by stirring the cream almost continually while it is being heated up to the required temperature. This prevents the cream from becoming lumpy, and makes butter of better texture. Of course the cream must be well ripened beforehand, and not too thin, as it comes from the separator. In my experience the above plan has never failed to bring the butter in a reasonable time.

To heat cream to 85 degrees before putting it into the churn is, I am well aware, contrary to all the laws of expert buttermakers, but it is results we are after, and in my experience this method has never failed to bring them.

LITTLE AND BIG COWS

The size of a cow has little or nothing to do with the cost of milk-production, as has been abundantly proved by experiments. It has time and again been demonstrated that there are big cows with comparatively small feeding

capacity, and on the other hand some little cows have even greater feeding and digesting capacity than some of the larger ones.

In my own herd I have both of these kinds of sows—little cows that eat much and big cows that eat less, but they are all profitable, otherwise I wouldn't lose a minute's time in getting rid of them and putting better ones in their places.

Some cows with short legs and light quarters will barely turn the scales at 900 pounds, and yet have a capacious middle, will eat and digest more than others with long heavy quarters, with a comparatively light body and weighing 1200 pounds. Small or medium cows have greater digesting capacity in proportion to their size than large animals.

This seems to hold with al domesticated animals, not only as to feeding capacity, but in strength and endurance as well. In breeding to increase size we always fail to increase strength and endurance in the same proportion.

CONCRETE POST FAILURES

Failures in the making of concrete fence posts are frequently due to causes that may be easily remedied. Professor F. W. Ives, of the Agricultural College, Ohio State University, suggests the following:

Most failures come from using dirty sand, dirty stone or lumpy cement.

Concrete posts must be reinforced to furnish strength necessary to avoid breakage by pull of fence or impact of animals or machinery. Three or four No. 3 wires will give the proper reinforcement.

Rusty reinforcement should never be used. Rusty material continues to rust after being imbedded in thin layers of concrete, altho concrete will protect steel or iron in good condition.

Concrete maintained at a temperature of 60 to 70 degrees will have practically double the strength at the end of a week than the same material kept at a temperature of 32 to 40 degrees.

Posts should not be used until they are three or four weeks old. Even a longer time is desirable.

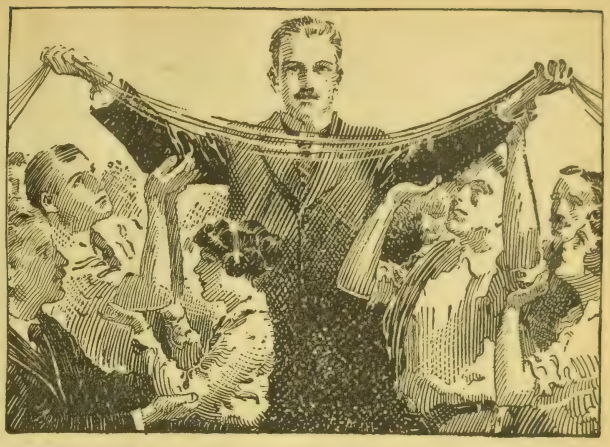
HANDLING A VICIOUS BULL

One of the safest means of handling a vicious bull is to blindfold him. He may be managed by means of ropes and pulleys, giving him room to move out of his stall when required, and bringing him back to his place, but it is a cumbersome method. I find from experience that blindfolding quietly takes all the conceit out of a blusterer.

A broad bandage of double sacking, securely fastened over his eyes, will serve the purpose ordinarily in the stable. The device can be used to good advantage in handling a nervous or excitable beast while being led about the farm, or to market, or drawn in a wagon to be shipped on a train. I remember a case of a heifer received on the train being so wildly excited that she would jump at a person approaching her to untie her halter, but by throwing a blanket over her head, and afterwards tying a sack over her eyes, she was quietly unloaded and tied behind a wagon, which she followed as meekly as one could desire.

Mismanagement and lack of thought make a great deal of trouble in the handling of stock. How often do we see men chasing pigs all over the place, in the vain effort to get them into a pen, the animals always going in the direction contrary to the one they are desired to go, while by having a pair of low light hurdles hinged together, forming a V-shaped guide, the animals can be handled quickly, and with the use of no unseemly words.

Vicious bulls are generally made so by unwise treatment when they are young, giving them too much liberty, or using them cruelly. It is well to use them kindly. But they should be trusted no more than is necessary, for it sometimes happens that a bull that has been quiet, suddenly and unexpectedly becomes vicious, and maims a man for life or gores him to death. It is the part of wisdom to handle a bull with a strong staff and a safe connection with his nose-ring, no matter how quiet he may seem to be.



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The subscription price of Farm News is 25 cents for one year and 50 cents for three years. When you are through reading your copy hand it to some neighbor, who will thank you for the courtesy and probably become a permanent subscriber.

Change of address: Subscribers desiring change of address should give old as well as new address. Please write plainly. Renewals: Subscribers should renew promptly on the expiration of their subscriptions if they want Farm News continued.

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The Square Deal

We believe that every advertisement in this paper is backed by a responsible person. But to make doubly sure we will make good any loss to paid subscribers sustained by trusting any deliberate swindler advertising in our columns. We protect subscribers against rogues, but we do not agree to adjust trifling differences between subscribers and honest, responsible advertisers. Notice of the complaint must be sent us within one month of the time of the transaction and you must have mentioned Farm News when writing the advertiser. Don't forget this last as it is for our mutual protection and benefit.

Volume XXXVI — DECEMBER 1916 — Number 12

Live Topics for Your Discussion

TWO BILLS BEFORE CONGRESS

There are two bills of vital interest to the public to be taken up by the next session of Congress, beginning December 4, 1916. One of these, the so-called Shields water-power bill, is now in the hands of a conference committee made up of members of the Senate and House of Representatives, and, so we are informed, in the hands of its friends.

The Shields bill practically makes a present of the public water-powers on our navigable streams to certain corporate interests, without providing for any compensation whatever. The power handed over is estimated at 60,000,000 horse-power, or double the power used to run every kind now used to run every train, trolley, factory, shop, mill, boat, mine, and electric light in the United States.

The Myers bill does for water-powers on public lands what the Shields bill purposes to do for water-powers on navigable streams. While the development of these projects under present conditions has lagged, it looks as tho the rights were certainly worth something, and that any concessions made at this time should be safeguarded with provisions which would insure a reversion to the public in case of misuse or change in conditions which might make public ownership desirable.

Whatever interest our readers may have in the passage or defeat of these two bills, which are characterized by the National Conservation Association as being "iniquitous" and "vicious," should be expressed direct to their congressmen and senators at the earliest possible moment.

XMAS SUGGESTION

Do you know what the editor of FARM NEWS would rather have for Christmas than most anything else he could think of? Can't you guess? Why certainly, send in a 25-cent piece to renew your subscription to FARM NEWS for another year.

Do you know what this would mean to him, and how it would make him feel to know that there were a number of people among his readers who appreciated his work sufficiently to extend him a greeting of confidence at this happy season?

There is no greater incentive to good work than an expression of appreciation, and an expression of this nature would certainly carry with it an added incentive for the best kind of work the ensuing year. It is only 25 cents, and I want to number you among my friends.

Wishing you the merriest kind of a Christmas, The Editor.

BROOD OF 17-YEAR LOCUSTS TO APPEAR NEXT SPRING

During the spring of 1917 a brood of periodical cicada or 17-year locusts, is scheduled to appear in the eastern part of Ohio, according to the entomologists at the Ohio Experiment Station. Portage, Trumbull, Mahoning, Stark, Columbiana, Carroll, Jefferson and Belmont Counties comprise the area where the insects will appear. A large brood is expected in 1919 over the western part of the state, and of these a few may appear in Columbia and Gallia Counties. Underground life for 17 years is required for the growth of these insects, and at the end of that period they appear in swarms over well-defined areas. Injury is done to twigs of trees and to fruit by female adults in laying their eggs. The young live upon the roots of trees and other plants, and after many years of seclusion come above ground to enjoy life there only for a few weeks, lay their eggs and pass away.

In counties where this insect appeared in large numbers in 1900, fruit trees should not be planted extensively next spring. Young trees may have the trunks and large limbs wrapped with paper to prevent egg-deposition, and the upper limbs should then be either inclosed by mosquito netting as complete protection or sprayed liberally with Bordeaux mixture or lime-sulphur wash as partial protection. The station entomologists say such treatment is more effective than attempts to kill the insects.

Sophie 19th of Hood Farm, the world's champion long-distance cow, is the proud mother of a lusty, vigorous bull calf.

OHIO STATE CORN SHOW COMING IN JANUARY

Three hundred dollars in cash will feature among the awards to the winners in the 27 classes offered in the ninth Ohio State Corn Show to be held at the Ohio State University during Farmers' Week, January 29 to February 2, 1917. Two silver cups will also be included among the prizes.

The state is divided into four divisions with separate classes in each. The best ears of corn in each division will then be entered for the grand champion sweepstakes prize, a trophy cup awarded by "The National Stockman and Farmer."

Besides the corn classes there will be others in wheat, rye, barley and soybeans along with clover and timothy seed.

For the first time in the history of the show, potatoes will be displayed. Five classes are open to exhibitors of tubers.

Another large trophy cup will be awarded by the Ohio State Grange to the grange securing the greatest number of points made as awards to individual exhibitors from the respective granges. All the 722 granges in Ohio are eligible to compete.

C. A. Gearhart, Wooster, Ohio, is secretary and general manager of the show.

THE PICTURE GAME CONTEST

Last month we announced in this paper that we had reasons for feeling sure that we would be able to announce the winners in this number. Briefly, the situation is: The winning answers were selected by the Judges in what we thought was plenty of time to allow us to go thru all of the books submitted by the contestants. After we had worked at it for several days, we learned from the parties who conduct contests of this kind, that it would take at least forty trustworthy and competent girls to get thru with the more than 3,000,000 answers we had to analyze. And even if we had access to the services of forty trustworthy and competent girls, which we have not, the advice as to the force required was received so late that it would have been an impossibility to get thru in time to publish all the 503 winners in the December number. We have now decided to take the matter in our own hands, and will work day and night to get thru so that we can announce the winners in the January number.

SUPERVISION DISTRICTS ANNOUNCED UNDER GRAIN STANDARDS ACT

The division of the United States into 32 supervision districts for administration of the United States Grain Standards Act, which will become effective December 1, 1916, was announced recently by the Office of Markets and Rural Organization of the Department of Agriculture. The headquarters of the districts will be established in the following cities: Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Buffalo, N. Y.; Pittsburg, Pa.; Baltimore, Md.; Jacksonville, Fla.; Atlanta, Ga.; Nashville, Tenn.; Louisville, Ky.; Cincinnati, O.; Indianapolis, Ind.; Toledo, O.; Cleveland, O.; Detroit, Mich.; Milwaukee, Wis.; Duluth, Minn.; Minneapolis, Minn.; Omaha, Nebr.; Chicago, Ill.; Peoria, Ill.; St. Louis, Mo.; Cairo, Ill.; Kansas City, Mo.; Memphis, Tenn.; New Orleans, La.; Galveston, Tex.; Fort Worth, Tex.; Oklahoma City, Okla.; Wichita, Kas.; Denver, Colo.; Portland, Ore.

The boundaries of the supervision districts are described in detail in Service and Regulatory Announcements No. 14 of the Office of Markets and Rural Organizations, just issued. After the scheme of districts as anounced has been tried out, it may be found necessary to make slight alterations in the boundary lines for the convenience of the grain trade.

Included in Service and Regulatory Announcements No. 14 is a map, showing the supervision districts. Enlarged copies of this map suitable for office wall use will be furnished by the Office of Markets and Rural Organization, U. S. Department of Agriculture, Washington, D. C., on the receipt of special requests.

VALUE OF FARM MANURE

The Ohio experiment station has carried extensive comparative experiments with farm and commercial manures for many years. Recently Director Thorne wrote: "After more than twenty years' work in the comparison of manure and chemical fertilizers on many crops, the station is not able to credit manure with any value beyond that of the nitrogen, phosphorus, potassium and lime which it carries. When manure costs more than two dollars per ton spread on the land, it is wiser to use the chemical fertilizers mentioned than to buy manure."

Experiments are being conducted at the Maine station along similar lines. Sir. Charles D. Woods reports the results during the first year in part as follows: "The humus formed from the organic matter of farm manure improves the soil texture, helps retain moisture and is valuable in many ways. Its plantfood is not so quickly nor so completely available as in the better forms of chemicals. But after much balancing of the pros and cons it has become generally accepted that the commercial value of the plantfood contained is the only definite thing about a farm manure by which we can measure its agricultural and commercial value."

FREE FARM ACCOUNT BOOK

Elsewhere in this issue an advertiser offers to send free a 64-page account book. The book is arranged to keep all accounts in simple form; shows how to charge against crop production; has a laborer's time record and section for personal accounts. Look up the advertisement and write a postal card to the advertiser, not to us, and get this book. You will find it useful.—Adv.

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Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war. The Government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

M. V. McINNES, 176 Jefferson Ave., Detroit, Mich.
W. S. NETHERY, Interurban Bldg., Columbus, O.
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Harry's mother had been spending the day with Aunt Marcella, a severe and dignified woman, of whom the children stood greatly in awe. A day or two later the aunt came to Harry's home, and looking at the little boy, asked:

"Why didn't you come to see me with your mother the other day? Did you have to stay at home as a punishment?"

"Oh, no, auntie," replied Harry, innocently, "I staid home as a reward."

Two little girls were playing together one day on Mrs. Kiernan's piazza.

"Why," asked Irene, "does your father go to the city every day?"

"Why," replied Helen, promptly, "to make enough money to sleep out here at night."

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Hunting and Trapping Department for FARM NEWS Boys—Making Land Sets

By C. H. Chesley

MORE care is required in making land sets than in setting the traps in water. For creatures that are at all hard to capture, it is necessary to proceed with the utmost caution in all the steps of preparing the sets. Water destroys the scent of human hands, and also takes away the smell of the iron. It is also easier to conceal the traps when necessary, but in many cases a covering of water is quite sufficient.

For handling traps that are to be set upon the dry ground, either in holes and dens or upon the surface, buckskin gloves are useful and it is a good plan to smear them with beeswax before touching those that are to be set for foxes, wolves, wildcats and other animals. Smoking the traps is another method resorted to, and this is a good plan when the sets are to be made in heaps of ashes or where a few leaves or grass tufts have been burned for the purpose of helping to cover the traps.

A useful tool to carry with the trapping kit is a long sharp-pointed piece of iron or steel set in a handle. This is used for the purpose of helping to place the traps and arrange the covering. Another tool is a sort of miniature grub-hoe that is used in digging excavations to take in the traps. These tools should never be touched with the bare hands, and only taken hold of by handles. Some trappers keep such implements stuck in the ground when not in use.

The so-called blind-set is one of the best for such animals as the fox, wolf, raccoon, opossum and wildcat. These sets should never be made near farm-houses, as domestic cats and dogs are quite as likely to be captured as creatures of the wild. No bait is used, but frequently some sort of liquid decoy is placed near the set to induce the animals to wander in the vicinity.

Decoys play an important part in capturing fur-bearers in land sets. Blind-sets are made in paths and runways. Paths in pastures, and natural runways in more distant haunts of the animals, are usually chosen as spots for the sets. Having chosen the place, the next thing to be done is to make an excavation for the trap. Space sufficient to take in the trap and chain with drag attached is dug out. The earth should be placed upon a paper, carried for the purpose and any not needed to fill in about the clog and trap should be carried away and dumped in some inconspicuous place that will not arouse the suspicion of the animals. Chaff from the hay loft is useful in helping to fill up such excavations, as it is light, and not so likely to get in the jaws of the trap when it is sprung. If earth is used, it should be made very light and fine by digging over. Coarse material should be carried away. The top, whether it be sod, moss or other material, should be saved to cover the set. It will, of course, have to be cut down pretty thin. When the trap is set a bit of rabbit fur or cotton should be placed under the pan. This should be a very small bit, just enough to help hold the pan in place, and keep the space underneath from filling with other material that would interfere with free action when an animal steps upon it. Bits of paper may be laid across the jaws of the trap before covering material is put in place.

Always set the trap at some distance from the spot chosen, then walk straight to place and arrange the set, not moving the feet while there, and walk straight away in an opposite direction when everything has been prepared. Do not get down on the knees when making the excavation and keep the feet still. The fox is particularly suspicious of anything that indicates that his human enemy has had unusual business around a spot. He does not suspect anything if he finds nothing more than ordinary footprints of man. Never leave anything in the vicinity that will retain the human scent. Old trappers never expectorate in the vicinity. Nothing is too small for the creature to see or smell. When the set is ready, bend down a weed or brush on either side, so when the animal jumps over the obstruction, he will jump directly into the trap. Traps with wide jaws are best for sets of this kind.

The so-called "bed" set is one that is much used for the more cunning animals. It is one, also, that requires a lot of care in making. Select a spot free from brush, bushes and roots—such as an open glade in the woods or a smooth knoll in the pasture. This set is also dangerous to the cats and dogs

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from neighboring farms, hence it should not be made except in remote spots. Remove the earth from a circular space two or more feet in diameter. Carry it away to a distance, then fill the excavation with chaff. Add a few ashes to give the bed a burned smell. Do not put the trap in at once, but place bits of meat upon the bed and await developments.

All necessary precautions should be observed in approaching the bed. At first the foxes will be shy of the place, but finally they will become bolder and dig over the material for the bait. More bait should be added as often as it is removed. When it becomes evident that animals are visiting the bed regularly, put in the trap, or perhaps two, if the space is large enough. First smoke the trap and then observe all due precautions. A fox should be taken the first night if the set is made skilfully, and the bed should be good for several more during the subsequent weeks. Old trappers used the bed much more than it is used at present, as blind-sets seem to be more in favor. However, we think the bed is one of the best methods of making land sets.

A peculiar set that has been used for foxes is made upon land that is broken with many stumps or hassocks that lie rather closely together. The carcass of a rabbit or muskrat is thrown on one of the stumps in a rather careless manner, then on nearby stumps or elevations traps are concealed. The philosophy of this set lies in the fact that Reynard will approach the bait warily, suspecting some trick. He will not try to get it directly but will jump upon one and another of the surrounding elevations to spy out the land before making a direct attack. The animal usually gets caught upon one of the places where he suspected no danger. Sometimes a fox that seems particularly cunning can be fooled in this way.

Brush sets may be made in out-of-the-way places. These are good for all kinds of land animals. Fasten a bait among the brush, and arrange surroundings so it can be obtained only from one side. On this side conceal the trap. Never use new brush for such a set. Use material already prepared. Brush sets are particularly good for skunk in the vicinity of their dens, for opossum near their haunts, also for wildcat, badger and raccoon. Fasten the chain to some of the brush to act as a drag. This method is employed by wolf trappers in the northern forests, where timber wolves abound. It is also used in the valleys and ravines along the river bottoms of the prairie states.

Skunk and civets are frequently captured by sets made directly in their dens. For this purpose the make of trap known as the Sabo is recommended. The badger is usually caught in its den. Stop up all but one of the entrances and set the trap in that one. This animal is of practically no value until cold weather comes on, and then some individuals are almost worthless. This is attributed to the fact that only those that have exposed themselves to the elements are of prime quality. The badger is not an important fur-bearer and is found in numbers only in some of the western states. A rather strong trap should be used for the badger. A curious thing about this animal is the fact that the red fox often lives in the same den with him, and apparently with perfect accord. Instances are known of the latter animal being taken in sets made at the entrance of the badger's den.

Where there are large open territories, traps concealed upon hillocks and even in manure heaps are effective ones for the fox and coyote. These animals use such elevations as lookout stations, and almost invariably mount each one as it is approached. Land sets that are also effective may be made about corn shocks. Place the intestines of a slaughtered farm animal close up to the shock, and outside conceal two or three traps. The chances are that an approaching animal will circle the shock two or three times before he tries to get the bait, and he is quite as likely to be caught in a trap set on the opposite side of the shock.

Sometimes an accident happens to, or disease overtakes, a farm animal. The carcass should be hauled to a remote place on the farm and traps set around it. Set several about the carcass using all your skill. The fox is quite likely to dig out the traps if they are not concealed with care. It is a good plan to set enough traps so nothing can approach without getting caught.

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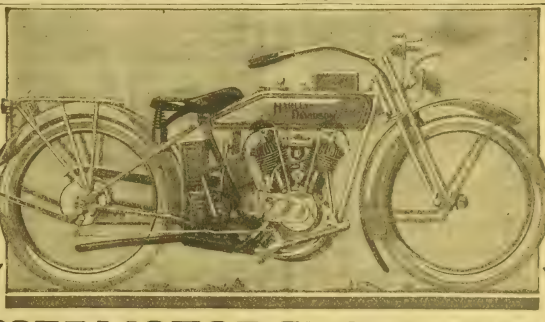

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Curing the Meat Supply

Some Reliable Methods Which Will Insure the Keeping Qualities as Well as the Flavor

By W. C. Smith

PROPER preparation of the meat supply that is to be treated for future use deserves considerable attention from those who are so favored as to have their own meat supply.

One of my farmer friends told me a few days ago that he was making preparations to butcher. "Our left-over sidemeat is getting strong," he said, "and we have used all of the joints and meat which we had cooked down. I am going to kill a small 'hog now and a couple of larger ones later."

With this man, the meat which has become strong is a dead loss, so far as furnishing food for the family is concerned, and the loss could have been corrected had the meat been properly treated in the first place. Properly cured meat will keep for several years without deterioration. One of the men who won first prize at the Missouri Farmers' Ham and Bacon show believes that a ham is at its best when two or three years old. His method of preserving meat is known as the dry cure.

Under the dry-curing plan the meat is cooled and trimmed, then rubbed with salt, and placed in a box with plenty of salt between and around each piece. About two weeks later it is taken out, rubbed thoroly and salted again. A month after this the meat is again taken out, each piece dipped in hot water and hung up to be smoked. Apple-tree wood, hickory or sassafras is used for smoking, and the smokehouse need not be elaborate. Any clean, tight room will do for a smokehouse, and the proficient hands at curing meat keep this smoke going for about two weeks. After smoking the hams are taken down and rubbed with a mixture of brown sugar, sorghum and cayenne pepper. Later they may be wrapped in paper, sewed in a sack, and will keep indefinitely if hung in a clean, dark room.

The dry cure for hams, as recommended by the Kansas Agricultural College, is as follows: For each 1000 pounds of meat use 40 pounds common salt, 10 pounds New Orleans sugar, 4 pounds black pepper, 1 1-2 pounds saltpeter and 1-2 pound of cayenne pepper. For any fractional amount a corresponding portion of the cure should be used. After mixing the ingredients half the amount should be rubbed into the meat. Put the meat in a dry, cool place, and two weeks later rub in the remainder of the cure, and let the meat lie about six weeks, when it is ready for smoking.

Sidemeat, which is usually hardest to keep in perfect condition, may be cured by the following recipe: 15 pounds salt, 3 pounds brown sugar, 1 pound powdered borax, 1 pound black pepper, 1-4 pound saltpeter. Place this mixture in a pan and heat it as warm as you can bear your hand in it. Rub on sides until they are sticky, and until no more of the mixture will hang on, then place them in boxes or barrels for ten or twelve days, after which they may be taken out and smoked. Sidemeat treated in this manner is especially fine for breakfast bacon, and may be hung all season without danger from flies or bugs. The joints so treated have the same flavor as sugar-cured meat.

The salt-brine method of curing meat is more common, perhaps, than the dry cure, and the meat may be sugar cured with either. Under the brine method the meat is laid out, each piece seperately, and salt lightly rubbed into it. After being let cool for 24 hours it is packed in a clean barrel, and a brine of 2 pounds of salt and 1 pound of brown sugar to each three gallons of soft water poured over it. Many people boil and skim this brine before cooling it and pouring it over the meat, and this is an excellent idea. It will take from four to six weeks, owing to the size of the joints, for the meat to take the salt.

No matter what method is used there are certain things to remember in properly curing meat, and one of them is that the salt or mixture should be rubbed in well about the hook ends and about the joints. Less cure is necessary for sides than for joints, and meat will take the cure quicker in warm weather than in extremely cold weather. The heavier and fatter the meat, the longer is the time necessary for cooling.

A light straw color is the accepted color for meat that has been properly smoked, but it is well to try a thin piece of bacon before being absolutely convinced that it has been smoked enough. The smoking should be done slowly, and the meat should improve in flavor until it is at least two years old.

Saltpeter causes the meat to retain its naturally red color, but an excess of saltpeter will make it dry and woodlike. Sugar may be used to replace saltpeter to a certain extent, as it tends to make the meat tender and imparts color. In the dry-salt method, many use cloves, thyme, laurel leaves or other substances to improve flavor.

Remember, in curing meat, to take plenty of time, for it is not a job to be hurriedly done. See to it that the smudge fire is far enough away so the meat will not become heated in smoking. Many use paper in which to wrap meats, others use unwashed flour sacks, but where it is properly cured and smoked, and brushed with borax, no wrapping is necessary.

BUTCHERING TOOLS

Ease and economy in butchering on the farm depend a good deal upon the tools used. The most important tool of all is a five or six-inch skinning knife. The curved blade cuts more easily than an ordinary butcher knife and is especially handy when killing cattle. A ten-inch steak knife and a narrow, six-inch boning knife will be found very convenient tho not as necessary as the skinning knife. A bell-shaped hog-scraper costs about twenty cents and will prove invaluable in cleaning the hog. A twenty-two-inch saw is long

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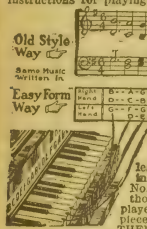

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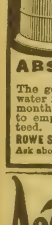

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enough and when used with an eight or nine-inch cleaver will split even a beef carcass very easily. Two iron kettles with a capacity of 20 gallons each, a combination lard press and sausage stuffer, meat grinder and sharpening steel will also be needed. An old singletree may be used for a hog gambrel and a four-foot oak beam for a beef tree. These with a block and tackle, barrel and ax will make a very cheap and efficient set of butchering tools.

PATERNAL BANKING

The chamber of commerce of Wichita Falls, Texas, was one of the first commercial organizations in the southwest to undertake the task of assisting the farmers on a really extensive scale.

The first undertaking was the importation of the 75 head of high grade Holstein cows from the Wisconsin. This venture was financed by local banking institutions on a very liberal basis. The cows were divided into herds of five each, and one herd given each family. The only requirement made by the bank was that one-half of the gross proceeds from the sale of milk and butter from the entire herd should be applied on the note. A maximum of two years time was given to complete the payments, and the notes drew eight per cent interest.

To safeguard against loss in any way, the farmers who received the cows organized a mutual insurance association, which was to run for six months following receipt of the cattle. The six months has expired, and finds only one cow lost. This loss was prorated among all of the owners with entire satisfaction. Every man who received cows under this plan has already paid at least one-third of the cost, and will soon be able to complete the payments.

Lots were drawn when the cattle were received, so that the distribution might be satisfactory to all concerned. The herds were arranged as near equal in value as possible, and were numbered to correspond to the tickets which were drawn from a hat.

Recently the chamber of commerce received from the First National Bank $1,000.00 to be used as a permanent fund for the benefit of the boys and girls of that section. The money will first be spent for registered pigs which will be given out. These boys and girls will sign notes for the pigs, and will be given twelve months to repay the loan, with interest at the rate of eight per cent. When the money is repaid it will be spent for poultry or calves, as the boys and girls choose. This plan will teach the beneficiaries the fundamental principles of business, and will ultimately reach every worthy boy and girl in the vicinity of Wichita Falls. The government demonstration agent will aid in handling the entire proposition.

"Mother," asked little Emma, earnestly, "now that Auntie Gertrude is dead and you're in mourning, will you wear black nightdresses too?"

"Why, certainly not!" exclaimed the mother, impatiently, "what a perfectly absurd question, Emma!"

"Well, I didn't know," said the little girl, "I only thought you might be as sorry at night as you were during the daytime."

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Orchard and Garden

By Charles H. Chesley

THERE is very little work that can be done this month that can be called real gardening, yet there is plenty of labor in getting the patch in readiness for early planting. One of the principal things in gardening is to get certain crops into the ground at the earliest possible moment next spring.

There are a number of duties that should be attended to now, and the doing of which will be appreciated at planting time, when we have more work than we can properly attend to. In gardening, as in many other kinds of farm work, it is wise to "take time by the forelock." In southern localities there is work that can be done in connection with the frames, and, of course, the man who is so fortunate as to have a greenhouse will find plenty to occupy his attention at this season.

The garden patch should be given a liberal coat of stable manure if it has not already been done. The vegetables usually grown in the garden are gross feeders, and a goodly supply of plant-food is needed. There is nothing that can so fully supply this need as manure from the cow stables. Horse manure, if it is not too largely mixed with straw or other coarse material, will answer the purpose; and again it is possible to grow vegetables with the use of chemicals and commercial fertilizers. Hen manure is also one of the best of fertilizers. After the manure is applied, it should be plowed in, provided the ground is not frozen. Except in the extreme North it is usually possible to plow as late as December, and often at other times during the winter.

A good plan to follow with land that is desired for the first early peas, lettuce and other crops, is to throw up the soil in ridges and furrows, either with a spade or plow, in a direction corresponding to the general slope of the land. This helps to dry out the land earlier in the spring, and for peas the furrows may be all prepared. If this is done the peas can often be put in a week earlier than it would be possible to plow and furrow the land. Land which it is desired to plant to onions, should be plowed in the fall by all means. One successful grower of our acquaintance harrows and rolls the land in the fall. In the spring he simply goes over it with a light harrow, and drills in the seed with a planter. It is generally considered that onion seed will germinate better if the soil is in a fairly solid condition.

Many farmers get up their annual supply of firewood at this season. It is an easy matter to get a supply of bean poles, tomato stakes and brush for the tall peas at the same time. Throw a few on the top of each load, and it will prove much easier than taking the time to go to the woodlot for a whole load next spring. This year we used forked stakes for the tomatoes, and found them both convenient and effective. It is not often desirable to prune the tall rank-growing varieties to one stem, and the forked stakes are excellent for keeping several branches off the ground.

Anything that needs mulching should be attended to after the ground freezes. Strawberries should be mulched with straw. It is not desirable to use material in which manure is mixed, unless the bed is an old one that is to be plowed after one more crop. Manure will cause weeds and clover to come in. Strawberries do not need a covering as protection from cold, but rather as a prevention of alternate freezing and thawing, and the resulting heaval of the plants. Other small fruits, such as blackberries, raspberries and currants, may be mulched with coarse horse manure if the canes are not to be laid down. These berries, as a rule, need a lot of fertility in the soil.

If it has not been done in the past, it is a good time to lay out the garden in long rows; that is, it is a good time to plow any necessary additions. Long rows can be cultivated with the horse machine, or if this is not desirable, the wheel hoe will be found to work better in the long rows. Now is a good time to look up the catalogs and select a hand cultivator, if one is not already used on the farm. The best machine to buy is one with seeding attachment which can be removed when not needed for sowing. If this sort of machine is not desired, there are various kinds down to less than two dollars in price.

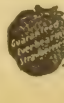
Gardens that are stony should be cleared of such incumbrances. Large stones may be broken up with a few charges of dynamite. Smaller ones and pebbles should be raked off and picked by hand. Soil that is free from stones makes the most desirable garden, but on some farms the garden spot that lies in the right place as regards the house is not in the most desirable condition. It can be made passable, however, by work. No stones or obstructions of any kind should be allowed in the garden.

In rearranging the garden it may be necessary to change the location of the rows of perennial plants, like rhubarb and asparagus. The former may be transplanted in the fall, or at any time when the ground is not frozen. The latter we have usually had best success with when transplanted in the spring.

THE PRINCIPLES OF PRUNING APPLE TREES

Apple trees are best pruned during the winter season, when the wood is dormant. This may mean that in certain sections, where the winters are mild, the pruning can be done with safety at any time after the leaves fall. Again, in more northern regions, where the temperature runs far below zero, it means that it is better to delay the pruning until the approach of spring. Excessive cold sometimes causes the bark to crack and peel off on newly-pruned trees.

For any part of the country there is no better time for pruning than late winter. It is well, however, to choose a certain time, and stick to it year after year. Trees are slaves to habit, just as are individuals of the human race, and



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they must be induced to form the habit of starting new growth every spring. Winter pruning induces vigorous growth, and the tree that has a habit of making strong growth every year is pretty sure to be a producer.

The first principle in pruning is to remove all dead and dying wood. Not only does this increase if left, but it occupies room needed for new branches and sprouts. Cuts should be made well above the diseased part and all limbs should be sawed squarely off, leaving clean edges. A saw should always be used rather than an ax, as it does much cleaner work. Superfluous and crossed branches should also be removed.

The second principle is that the tree may be induced to grow in the desired shape. In old orchards this object may be attained, at least partially, by cutting out the taller branches and inducing new growth. In young orchards the first three or four years largely determine the shape, and, if the pruning is properly done, little later work in the line of shaping is necessary. It is highly important that the trees be kept as low as possible to help out in the work of spraying and gathering the fruit.

A third principle is to prune in such a manner as will best admit the sunshine. Thinning the branches also thins the fruit, and at the same time assures apples of better quality and color.

All large wounds, where limbs are removed, should be painted with a thick lead paint, to which has been added a little lamp-black to make the color more noticeable. This excludes moisture, closes the pores of the wood, and keeps the limb from decaying. Branches an inch or less in diameter need not be painted.

CAN YOU TELL IRON FROM STEEL

In many instances a farmer is at a loss to know whether a piece of metal is iron or steel, be it in a machine or in bar form.

There are numerous methods used to distinguish between them, of which the following are the four most common:

First: The method most commonly used is to tap the metal with another piece of metal or to drop it on a hard surface, a concrete floor will serve, and note the sound made. If the metal has a clear ring it is steel, if a very dull or dead sound it is iron.

Second: Examine the surface and corners of the piece in question. If the surface has a glass smoothness and the corners are sharp it is steel. If the surface be rough and the corners somewhat rounded, it is iron.

Third: Touch the metal to an emery wheel and observe very closely the sparks given off. If all the sparks burst after leaving the wheel it is steel. In steel some of the sparks burst and then the particles burst again. In iron this never happens and but very few of the sparks burst.

Fourth: A final method, if the person is still in doubt, is to break the metal. If the fracture shows up fibrous with a dull appearance, it is iron. If the break is clean and the particles have a luster it is steel.—H. A. Schott, Col. Ag. Coll.

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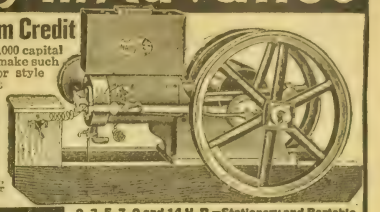

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Total value	$1.50	
Peoples Home Journal (1 yr)	50c	Our price **75 cts**
McCall's Magazine (1 yr)	50c	
Farm News (3 yrs)	50c	
Total value	$1.50	
Ladies' World (1 yr.)	$1.00	Our price **$1.00**
Peoples Home Journal (1 yr)	50c	
Farm News (3 yrs)	50c	
Total value	$2.00	
Ladies' World (1 yr.)	$1.00	Our price **$1.00**
Today's (1 yr)	50c	
Farm News (3 yrs)	50c	
Total value	$2.00	
Housewife (1 yr)	50c	Our price **$1.00**
Today's (1 yr)	50c	
Peoples Home Journal (1 yr)	50c	
Farm News (3 yrs)	50c	
Total value of this Club	$2.00	

$2,500 CASH FREE

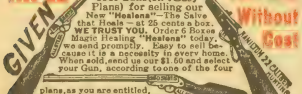
Accept any one of these Money-Saving Magazine Club Offers, **add 25 cents extra**, and we will send you free and prepaid a complete "**Home Pastime**" outfit for our big **$2500 cash prize contest**, illustrated on page 2 of this issue. This is the biggest and best offer and most wonderful opportunity ever given to our readers. Act quick—today.

—The Editor.

FARM NEWS, Desk A, Springfield, Ohio

Dandy, Durable Talking Machine—FREE for selling only 20 handsome fruit, art and religious pictures. Sell pictures at 10c each—send us $2.00 from sale and this Wonderful Talking Machine is yours. If you send 20c cash extra or $2.30 in all, we will include one record, package of needles and prepay charges right to your door. Going like hot cakes. Send no money. Rush order for 20 pictures now while great offer is open.
ALTON MDSE. CO. Dept. 601 Chicago

1000 Shot Steel Air RIFLE GIVEN Hamilton 22 Cal. Hunting RIFLE Without Cost
BOYS! We give choice of four Guns (on 4 Easy Plans) for selling our New "Healena"—The Salve that Heals—at 25 cents a box. WE TRUST YOU. Order 6 Boxes Magic Healing "Healena" today, we send promptly. Easy to sell because it is a necessity in every home. When sold, send us our $1.50 and select your Gun, according to one of the four plans as you are entitled, in our big list. Extra Gift—just for promptness, so order today.
WAVERLY SUPPLY CO., Box 121 , Monongahela, Pa.


GIVEN Watches, Rings, Chains, Lockets, Bracelets, Air Guns, for selling Silver Aluminum Thimbles at 10c each. Paper Gold Eye needles FREE with each thimble. We trust you and send 12 thimbles and 12 papers needles with large Premium Book. When sold send us $1.20 and receive premium entitled to select from premium list.
HOME SUPPLY CO., Dept. 504, Chicago, Ill.

FREE
POPULAR DAISY Air Rifle, strong accurate shooter. Every boy who likes to hunt should have one. FREE for selling only 20 handsome specially selected Fruit, Art and Religious pictures—at 10 cents each. A few hours time gets the Daisy. ALTON MDSE. CO., Dept. 410 , CHICAGO.

919 CARDS New Styles Gold Bevel Edge Hidden Name, Silk Fringe Envelope and Post Cards; 100 Rich and Rare Jokes; 1 Pack Fun, 1 Escort and Love Cards; Star Beat Catcher, Big Sample Book Cards, etc., all Two cents. UNION CARD CO., B-4 Columbus, Ohio.

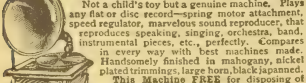
SOLO GUITAR FREE

American manufacture, well and carefully made, cherry finish, richly ornamented. All strung with 6 strings, has clear, rich tone, easy hold, durable and satisfactory. We give this fine instrument free to any boy or girl who will dispose of 8 sets at 25c a set on our special offer and send us the $2 collected. Send name and will send pictures at once.
E. D. LIFE, 337 W. Madison St., Dept. 12243, Chicago

Emerson Phonograph FREE
Not a child's toy but a genuine machine. Plays any flat or disc record—spring motor attachment, speed regulator, marvelous sound reproducer, that reproduces speaking, singing, orchestra, band, instrumental pieces, etc., perfectly. Compares in every way with best machines made. Handsomely finished in mahogany, nickel plated trimmings, large horn, black japanned. This Machine FREE for disposing of only 20 sets of our new art pictures at 25c a set, and sending the $5 collected. Write for pictures today.
E. D. LIFE, 337 W. Madison, 12143, CHICAGO

Big Sleeping Doll FREE
Nearly 2 feet tall, completely dressed in satins and laces, beautiful picture hat and feather. Has slippers, underwear, stockings, etc. A perfect beauty. Send name and we'll send 8 set art pictures to distribute on special offer at 25c. Send money collected and we send doll free, also extra present for promptness. Write now. M. O. SEITZ, 12243, CHICAGO, ILL.

ALL FREE THESE
Gold plated Locket set with sparkling stone and 22-inch Chain, one SIGNET NETHERSOLE BRACELET to fit any arm and these four GOLD PLATED RINGS, all given FREE for selling only 12 pieces of our Jewelry at 10 cents each. Write for them.
EAGLE WATCH CO., Dept C4., EAST BOSTON, MASS.


FREE
POWERFUL AIR RIFLE Length 32 inches. Working parts of the best grades of steel. The stock is finely polished walnut. Shoots small game. Powerful, accurate, durable. You can have this air rifle for distributing only 8 of our fast selling art pictures at 25 cents on our special offer. Everybody will take one. IT COSTS YOU NOTHING to try, as we take back those you can't dispose of. Send no money. Just your name and address. M. O. SEITZ, 12D43 CHICAGO.

COUNTRY BOYS CAN BECOME BOY-SCOUTS NOW

The country boy who lives so far from other boys that it is not practical for him to join a scout group or patrol, may now become a Boy Scout without becoming a patrol member. This has just been announced at national headquarters. Wherever a boy is located he may now have all the fun that scouts everywhere are having, he may become a member of the Boy Scouts of America, the great organization of more than 200,000 boys led by the most eminent men of this country, among whom are the president and the two former presidents.

To thousands of boys from the backwoods of Maine to the ranches of California and from the Everglades of Florida to the plains of the great Northwest, who have written to national headquarters and begged to be enrolled as scouts, the answer has always been "You must form a troop or join a troop already organized."

In an enormous number of cases, however, the boys have found it impossible to do either of these. Yet in spite of the disappointment, these boys lost none of their enthusiasm and are yet as eager to become scouts now that their time has come.

NOT 'LONE SCOUTS' BUT 'PIONEER SCOUTS'

"Now we couldn't help admiring these boys for their grit and spirit," writes the chief scout executive. "We knew they had good scout stuff in them, so we decided to work out a plan which would enable such boys to become regular scouts and allow them to wear the uniform and badges and pass their tests and have all the fun scouts enjoy.

"For a time we thought we would call these boys Lone Scouts. But that name didn't seem to fit very well—for we don't think they will be lonesome a bit. Then we hit upon the name Pioneer Scouts and that seemed to fit them perfectly, for they are to be a picked group of boys in the same way that the old pioneers who pushed back the frontier and conquered the wilderness were a picked group of men—men with courage and grit who tackled their work with a vim and would not let discouragements down them.

"And so the boys we take in as Pioneer Scouts are to be high-grade material. They will be pioneers of the movement, each in his own locality, living the life of a scout, showing the people what a boy scout is and opening the way for further expansion of the movement. We already have in our office the names of more than 1,000 boys who are anxious to become Pioneer Scouts."

THE BOY SCOUT OATH

On my honor I will do my best:

1. To do my duty to God and my country, and to obey the Scout Law;
2. To help other people at all times;
3. To keep myself physically strong, mentally awake, and morally straight.

THE SCOUT LAW

1. A Scout Is Trustworthy.

A scout's honor is to be trusted. If he were to violate his honor by telling a lie, or by cheating, or by not doing exactly a given task, when trusted on his honor, he may be directed to hand over his scout badge.

2. A Scout Is Loyal.

He is loyal to all to whom loyalty is due; his scout leader, his home, and parents and country.

3. A Scout Is Helpful.

He must be prepared at any time to save life, help injured persons, and share the home duties. He must do at least one good turn to somebody every day.

4. A Scout Is Friendly.

He is a friend to all and a brother to every other scout.

5. A Scout Is Courteous.

He is polite to all, especially to women, children, old people, and the weak and helpless. He must not take pay for being helpful or courteous.

6. A Scout Is Kind.

He is a friend to animals. He will not kill nor hurt any living creature needlessly, but will strive to save and protect all harmless life.

7. A Scout Is Obedient.

He obeys his parents, scoutmaster, patrol leader, and all other duly constituted authorities.

8. A Scout Is Cheerful.

He smiles whenever he can. His obedience to orders is prompt and cheery. He never shirks nor grumbles at hardships.

9. A Scout Is Thrifty.

He does not wantonly destroy property. He works faithfully, wastes nothing, and makes the best use of his opportunities. He saves his money so that he may pay his own way, be generoeus to those in need, and helpful to worthy objects. He may work for pay but must not receive tips for courtesies or good turns.

10. A Scout Is Brave.

He has the courage to face danger in spite of fear and has to stand up for the right against the coaxings of friends or the jeers or threats of enemies, and defeat does not down him.

SOME DELICIOUS RECIPES FOR THE CHRISTMAS TABLE

By Jane E. Clemmons

Yes; I'm 'specially fond of sweet pumpkin pies;
There's something about them to dry men's eyes;
It may be the spices—an old man's whim—
Or the crispness of pastry, the brittle brown rim—
But I know that I frequently see in my dreams
Countless rows of hot pies floating down crystal streams.

Yes; I'm 'specially fond of the apple pie;
There's a juiciness 'bout it—or tell me I lie—
It may be the taste that in childhood I grew
For the "smoke-house," the "Baldwin," and "green pippin," too;
But I know—when I shut both my mouth and my eyes—
That pie from a hundred "sassiety" pies.

Yes; I'm 'specially fond of the sweet, juicy mince;
In its spicy aroma, I revel a prince—
No trouble to "dream" when it's mince-pie, you know;
But I reckon the pleasure of eating it, tho,
Is enough to "pay fiddler;" I'll risk it each time,
Cold or hot, spring or fall, or in brisk wintertime.

But the turnover pie! Let it be what it will,
I care not—just made like my mother's—for still
In my memory dwells the time of my youth,
When she packed my lunch basket with dainties; forsooth,
It was nuggets of love that she stuffed in the pies
That I ate; ever since they're the pride of my eyes.

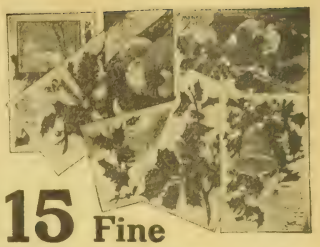
Pumpkin Pie—For one crust take three tablespoonfuls sifted flour, a little salt and one tablespoonful lard chopped with the flour, add a little water at a time until it will stick together, put on a floured board and roll out. This makes just enough for an under crust.

Select a good sweet pumpkin, pare and cut in small pieces and put in a kettle with a pint of water. Boil slowly for an hour, stirring occasionally. Turn out in a colander and drain, then rub thru the colander into a bowl. A medium-sized pumpkin is best. To each pint of cooked pumpkin add one pint of milk, three beaten eggs, five heaping tablespoonfuls of sugar, one teaspoonful ginger, two teaspoonfuls cinnamon and a pinch of salt.

Apple Pie—Line the pan with good paste. Pare and halve the apples, then place in the pan with round side down. Mix a piece of butter the size of an egg with two tablespoonfuls of flour, add two cupfuls of sugar and one-half cupful of water. Mix smooth, pour over the apples and bake. When the apples are cooked, pile on the whites of two eggs beaten to a stiff froth with two tablespoonfuls of sugar. Set in a hot oven until nicely browned, or omit the meringue, and when the pie is cool serve with whipped cream sweetened and flavored to taste. A little nutmeg or cinnamon may be put in the pie if liked.

Turnover Pie—When you haven't enough fruit for a pie, roll out your paste, pile your fruit on half of it, fold over the other half after sweetening and flavoring to taste, then press the edges tightly together with a little twist to form a pretty edge. Cut a slit in the center, or make several small incisions on either side of it. Bake as you would any pie. Apples, dried or canned fruits, or fruit butters may be used for these good old-fashioned turnover pies, and they will prove a delicious dainty.

Lady bugs are allies of the farmer in his campaign against scale insects and other similar enemies of plant life. Let the lady bugs "fly away home" unmolested.



15 Fine Xmas Post Cards 10c

We have just secured the most exquisite and beautiful assortment of Xmas Post Cards that we have ever seen—the kind you pay 5c each for in shops. We will send a fine selected assortment of 15 of these elegant Xmas Post Cards, carefully packed and postage paid, for only 10c, stamps or silver, while the supply lasts. Two extra Xmas Novelties given free with each order. Order at once. Best Xmas Post Card offer of the season. Address
MASON SUPPLY HOUSE Springfield, Ohio

Make $1,500 to $3,000 This Winter

Work Right in Your Own County—All or Spare Time

Profits Start First Day—Success Assured

Wonderful new business—a golden opportunity for one good hustler in every county. **No experience required.** No risk. Samples furnished—just follow easy instructions and work honestly—for yourself. If you want a high-class position—if you want to make the winter months count—if you want **$1,500 to $3,000 cash** for five months, **write today.**

Amazing New Home Invention

The Shafer Ventilated Chemical Indoor Closet

No plumbing—no waterworks—no cesspool. **Banishes the outdoor privy.** Revolutionizes living conditions in country and village homes. Solves the one humiliating and perplexing country home problem. An imperative necessity to health, comfort and convenience. Perfected by heating and ventilating engineer. **Tested in 2000 homes for three years.** Gives positive satisfaction. **Demanded everywhere.** A sale at every home. **Thirty days free trial guarantee.** Low priced—warranted for ten years. Illustrated book free, showing pictures of homes and rooms containing this wonderful device, complete description, letters of endorsement from health authorities, doctors, editors, and scores of users with full names and addresses. This book is free—send for it today—**investigate!**

NO PLUMBING
NO WATERWORKS

$112.00 In Eight Hours

That's the record of one man in a single day. **The same man has never sold less than five closets for any half day's work.** Every home a prospect. Every sale makes **dollars**—not pennies—of profit. Biggest money-making opportunity ever offered. Liberal commission. Permanent business. **Exclusive agency contract.** Territory free. Co-operation, advertising, assistance. Business supplies the capital.

Agents Outfit FREE

Send no money. No order required to start. We start you **FREE.** We teach you how to make amazing success. Write now. Secure your county under exclusive contract. **Don't delay.** Write a letter or card giving name of your county and mail it today. Risk a stamp to get complete free information. **Do it right now—your part.**

Chemicals, which are furnished with the closet, and air currents do the work, automatically.

Price Complete Only $15.

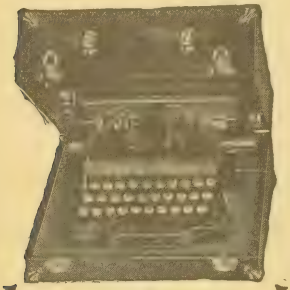
The Shafer Mfg. Co., 437 Colton Bldg., Toledo, Ohio

NEW RUPTURE CURE

Don't Wear a Truss

Brooks' Appliance. New discovery. Wonderful. No obnoxious springs or pads. Automatic Air cushions. **Binds and draws the broken parts together as you would a broken limb.** No salves. No plasters. No lies. Durable, cheap. Sent on trial to prove it. Full information and booklet FREE.

C. E. BROOKS
226 State St., Marshall, Mich.



$2 and You Keep this Superb Typewriter

Think of it! Only $2.00 on this great offer and we ship this marvelous, visible typewriter direct from the factory to you without any jobber's, dealer's or middlemen's profits of any kind. We allow full 10 days free trial. Use it all you want to. Try it for speed, durability, all around excellency. Notice its exclusive patented features, its new line space regulator, bronze carrying bearings, patent eraser plate, patented envelope addressing plate, self interchangeable type reels, printing 90 letters and characters—then, if you don't want it, send it back at our expense. If you find it the greatest bargain you have ever seen or heard of anywhere and decide that you want to keep it, you can make settlement on the easiest monthly payments.

FREE Use for 10 Days

That you may test the excellent qualities of this typewriter, we will place one in your home or office for ten days free use. Don't pay the enormous profits asked by the local dealers. Buy direct from us, the manufacturers, and save from $50 to $65 on the purchase of your typewriter. Every sale is backed by our 10-year, ironclad guarantee.

Easy Payment

Never mind the money. Our low, wholesale price and easy payment terms are so liberal that you never think of the money. We want you to see for yourself that "The Chicago" is equal to any other typewriter that costs more than twice its price. It is the only typewriter good enough to put out on a 10-year, ironclad guarantee and easy payment plan, such as we offer you here.

Limited Offer

To all who write promptly, we will include free, one of our handsome leatherette carrying cases with fine brass lock and trimmings. Just send your name and address for full particulars of this special, limited, wholesale offer and it will be sent to you postpaid free. **Write today—now!** Address

GALESBURG WRITING MACHINE CO.
Departmentt 1605 GALESBURG, ILL.

Last Year's Potato Problems

(Continued from Page 4)

variety. In nearly all years the market for good seed-stock is from twenty-five to thirty-five per cent above the market on table stock. As an offset on this additional price, there is some additional cost in buying certified seed from which to grow certified seed, and in paying the cost of inspection by experts who certify your crop in case it passes the inspection tests. There is possibly a little additional cost in marketing, because the best growers use standard sacks with their names printed on them. The cost on this item is likely entirely wiped out, however, by the advertising value of stock delivered in stamped bags carrying the advertisement of the seller.

In localities where the plan of certification has not been carried out, there is more or less doubt concerning what certification means. The work was started in Wisconsin, and is being gradually followed in Michigan and Minnesota. The greatest success to date has been attained in Wisconsin.

Under the plan as now carried out, the certifying official is duly accredited from the state university or the State Potato Growers' Association. In Wisconsin he comes from the university, and works thru the state association. He has no material interest in the sale of the seed. The inspectors make one or two visits to fields entered for certification during the growing season, and one bin inspection is made after the digging season. Inspections during the growing season are made to determine varietal purity, freedom from disease and other characteristics that cannot be determined after the crop is harvested. A high-quality crop must be produced. Looking over the stock in the bin is the final inspection before the crop is passed upon for certification. Each sack or container receives an official tag certifying the potatoes. Only the stock inspected and passed upon is certified, and the certification does not extend to all of the stock which the grower may have.

There has been some slight abuse and misunderstanding, but really the extent of trouble of this kind has been much less than might have been expected. Some growers, having had a portion of their stock certified, have sold all of their stock with the guaranty that it was certified. The success of a plan of certification depends absolutely upon the certification meaning "quality goods," and the state association has never hesitated in taking prompt action whenever any irregularity of any kind has been reported. Usually nothing more than a request from the state association for the grower to make a settlement with the claimant is needed. The grower knows that if he fails to do what is right he can never again have stock certified by the state association, and he can never again hope to avail himself of the remarkable marketing help of the state organization. In normal years, the state association is able to place at very good prices every bushel of certified seed raised in Wisconsin. This was the case last year, when the 50,000 bushels of certified stock produced in the state was sold thru the state association at prices of from $1.00 to $1.50 per bushel.

Farmers in states where commercial potato-growing obtains should not fail to become members of the state association, if there is such an association in the state. Many people have an aversion to joining anything. They think it means dues and assessments, and nothing much in return. Farmers, probably more than other people, dislike to join anything which they think may be an institution created to extort hard-earned money from them. It is well to be wary, but everyone should keep his mind open, so that when a really valuable help is offered it is not turned down on snap judgment.

What the state association has meant to commercial potato-growers in Wisconsin can not be overestimated. It has transformed potato-growing from a haphazard occupation into a specialized industry, and it has gone a long ways in giving the grower the added compensation which he should receive for turning out a quality product. It has educated the consumers of potatoes in Wisconsin to know there is a difference in potatoes. To a great extent it has prevailed upon Wisconsin housewives to demand better stock than they formerly received from their grocers, and it has had a powerful influence in bringing about the increased use of potatoes by educating the public to the many forms in which potatoes can be prepared. Perhaps some of these activities seem far-fetched. But they really are not. Let me illustrate.

In 1915, the Wisconsin potato show was held at Marinette, Wis. In connection with the show and convention there was a separate school for women, in which demonstrations of twenty-five methods of preparing potatoes for eating were given. The school was a big success from the opening season, and larger quarters had to be provided before the convention was over. Today potatoes are served in more and better ways in the city of Marinette, it is believed, than in any other city in the country. And thru this work in Marinette the knowledge has spread, and the state association in its literature and extension work has carried on this activity.

The distance between the present status of the potato-growing industry, and the day when all good stock will be sold in standard containers under known brands, with national advertising as the sales stimulus for quality goods, is not great. Already there are several firms specializing in the manufacture of containers for quality potatoes. Wisconsin counties are specializing in certain varieties—one county being known for its Rurals and another for its Green Mountains, etc. In time the individual growers or sectional associations of growers will adopt brands under which their product will be marketed. Thus we may find the housewife at her favorite grocery calling for "Gold-Ribbon Rurals" or "Smith's All-Good Cobblers."

What can national advertising do for the potato industry? What is it doing today for many other industries? It will not only make possible the reward of producing better stock, but it will actually increase the consumption of potatoes, and hence make better markets year in and year out.

The potato industry is getting out of the woods fast these days.

A Genuine Rupture Cure Sent on Trial to Prove It

Don't Wear a Truss Any Longer

After Thirty Years' Experience I Have Produced An Appliance for Men, Women and Children That Actually Cures Rupture

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon today and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It is instant relief when all others fail. Remember, I use no salves, no harness, no lies.

I send on trial to prove what I say is true. You are the judge and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail today. It's well worth your time whether you try my Appliance or not.

Pennsylvania Man Thankful

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—Perhaps it will interest you to know that I have been ruptured six years and have always had trouble with it till I got your Appliance. It is very easy to wear, fits neat and snug, and is not in the way at any time, day or night. In fact, at times I did not know I had it on; it just adapted itself to the shape of the body and seemed to be a part of the body, as it clung to the spot, no matter what position I was in.

It would be a veritable God-send to the unfortunate who suffer from rupture if all could procure the Brooks Rupture Appliance and wear it. They would certainly never regret it.

My rupture is now all healed up and nothing ever did it but your Appliance. Whenever the opportunity presents itself I will say a good word for your Appliance, and also the honorable way in which you deal with ruptured people. It is a pleasure to recommend a good thing among your friends or strangers. I am,

Yours very sincerely,
JAMES A. BRITTON.
80 Spring St., Bethlehem, Pa.

Confederate Veteran Cured

Commerce, Ga., R. F. D. No. 11

Mr. C. E. Brooks,

Dear Sir:—I am glad to tell you that I am now sound and well and can plough or do any heavy work. I can say your Appliance has effected a permanent cure. Before getting your Appliance I was in a terrible condition and had given up all hope of ever being any better. If it hadn't been for your Appliance I would never have been cured. I am sixty-eight years old and served three years in Eckle's Artillery, Oglethorpe Co. I hope God will reward you for the good you are doing for suffering humanity.

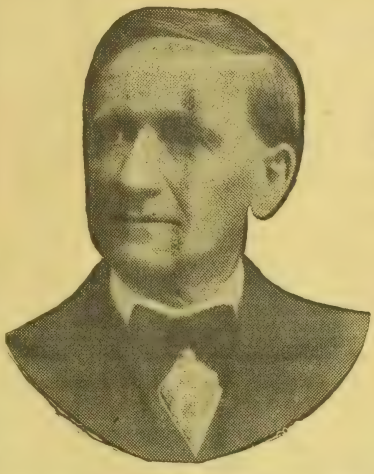
Yours sincerely,
H. D. BANKS.

Others Failed but the Appliance Cured

C. E. Brooks. Marshall, Mich.

Dear Sir:—Your Appliance did all you claim for the little boy and more, for it cured him sound and well. We let him wear it for about a year in all, although it cured him 3 months after he had begun to wear it. We had tried several other remedies and got no relief, and I shall certainly recommend it to friends, for we surely owe it to you.

Yours respectfully,
WM. PATTERSON,
No. 717 S. Main St., Akron, O.



The above is C. E. Brooks, inventor of the Appliance, who cured himself and who has been curing others for over 30 years. If ruptured, write him today at Marshall, Mich.

Cured at the Age of 76

Mr. C. E. Brooks, Marshall, Mich.

Dear Sir:—I began using your Appliance for the cure of rupture (I had a pretty bad case) I think in May, 1905. On November 20, 1905, I quit using it. Since that time I have not needed or used it. I am well of rupture and rank myself among those cured by the Brooks Discovery, which considering my age, 76 years, I regard as remarkable.

Very sincerely yours,
Jamestown, N. C. SAM A. HOOVER.

Child Cured in Four Months

21 Jansen St., Dubuque, Ia.

Brooks Rupture Appliance Co.

Gentlemen:—The baby's rupture is altogether cured thanks to your Appliance, and we are so thankful to you. If we could only have known of it sooner our little boy would not have had to suffer near as much as he did. He wore your brace a little over four months and has not worn it now for six weeks.

Yours very truly,
ANDREW EGGENBERGER.

Ten Reasons Why

You Should Send for Brooks Rupture Appliance

1. It is absolutely the only Appliance of the kind on the market today, and in it are embodied the principles that inventors have sought after for years.

2. The Appliance for retaining the rupture cannot be thrown out of position.

3. Being an air cushion of soft rubber it clings closely to the body, yet never blisters or causes irritation.

4. Unlike the ordinary so-called pads, used in other trusses, it is not cumbersome or ungainly.

5. It is small, soft and pliable, and positively cannot be detected through the clothing.

6. The soft, pliable bands holding the Appliance do not give one the unpleasant sensation of wearing a harness.

7. There is nothing about it to get foul, and when it becomes soiled it can be washed without injuring it in the least.

8. There are no metal springs in the Appliance to torture one by cutting and bruising the flesh.

9. All of the material of which the Appliances are made is of the very best that money can buy, making it a durable and safe Appliance to wear.

10. My reputation for honesty and fair dealing is so thoroughly established by an experience of over thirty years of dealing with the public, and my prices are so reasonable, my terms so fair, that there certainly should be no hesitancy in sending free coupon today.

Remember

I send my appliance on trial to prove what I say is true. You are to be the judge. Fill out free coupon below and mail today.

Free Information Coupon

C. E. Brooks,
1809A STATE ST.,
Marshall, Mich.

Please send me by mail in plain wrapper your illustrated book and full information about your Appliance for the cure of rupture.

Name .....

City .....

R. F. D. .....State.....

Feed Your Cattle 60 Days—At My Risk

AND GET ONE OF THESE STOCKMAN'S WATCHES

This beautiful special stockman's watch is as handsome a time-piece as anyone could want. It is a genuine New York Standard Watch—both case and movement being American made. It is seven full jewels, stem wind and stem set, with heavy bevelled crystal, double sunk dial, brequet hairspring, etc. The case is genuine nickel silver, handsomely engraved with a locomotive on the back. It is a watch that is specially designed to withstand a lifetime of the hardest and roughest usage and is Absolutely guaranteed in every way.

FREE

To introduce MY Stock Tonic to just a thousand more readers of this paper **I am going to give away** one thousand **magnificent Stockmen's Watches—Absolutely Free**—I'll send them at once—**to the first thousand readers** of this paper who send in the coupon below. With this watch I will also agree to send a big trial feeding of

WILBUR'S STOCK TONIC the Greatest of All Live Stock Conditioners.

What is more, I will send you this Stock Tonic with the distinct understanding that it is to be used for two whole months at my risk—that if at the end of two months feeding the Stock Tonic has not been entirely satisfactory **no charge is to be made.** I simply want you to make a two months' trial of my Stock Tonic with the understanding that **if it does not fatten up your live stock—kill the worms—that if it has not paid you to feed it**—no charge is to be made. Then as a special inducement and to pay you for the trouble in making the test I will give you—Absolutely Free—one of the Stockman's Watches shown above.

I Will Prove To You

that my Stock Tonic will positively **rid your live stock of worms, fatten them up and keep them in the pink of condition.** I will prove to you that you will actually get **more milk from your cows,** that you will fatten your **hogs, steers, sheep and poultry** for market in less time, that you will **save grain, prevent disease** and **make more money from each animal you own.** I have such absolute faith in Wilbur's Stock Tonic that **I take all the risk** in this trial feeding.

There Is No Secret About This Tonic

It is composed of twelve separate ingredients—plainly printed on every package—each one carefully selected and absolutely pure. These ingredients are acknowledged by veterinarians everywhere to be the **finest tonics, appetizers, digestive aids and worm dispellers known to medical science.** Each one has a special purpose. A compound of these herbs, roots, etc., is absolutely sure to **condition any animal—keep the blood clear—the system free from worms and disease and force the animal to put on fat rapidly.** I have proved it so often **there is no doubt about it.** I have made and sold this Tonic for over thirty years and over a million of the best stock raisers in America are feeding it every day—I have thousands upon thousands of the finest kind of letters from all parts of the country telling me of the wonderful results from feeding this Stock Tonic. Now all I want to do is to **show you that what it will do for others it will do for you.** And as a special inducement just to get you to make this trial—at my risk—**I am going to send you one of the handsome Stockman's Watches.**

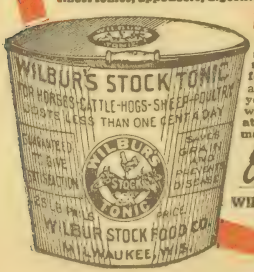
This Handsome Watch is Yours—FREE

It never costs you a cent. It is yours—forever—to keep and use every day—**whether you ever pay for the trial feeding of Tonic or not.** It's a handsome, dependable, fully guaranteed timepiece—would cost you $6.00 to $8.00 in any store. A watch you or any one will be proud to own, **and remember, it's free.**

E. B. MARSHALL, Pres.
Wilbur Stock Food Co., 150 Huron St., Milwaukee, Wis.

Please send me at once one of your **Stockman's Watches.** Also send me 100 pounds of Wilbur's Stock Tonic. I agree to feed the Tonic as directed for two months, and if it does what you claim, I will pay you in two monthly payments of only $1.00 each. If it fails and I so report in sixty days, you are to cancel the charge and I will owe you nothing. You are also to ship me—FREE—through Wilbur's Poultry Tonic—your guaranteed egg producer—to offset all freight charges on the shipment. It is understood that the Stockman's Watch and this pail of Poultry Tonic are to be mine—**Absolutely Free—whether I pay for the Stock Tonic or not.**

Simply Fill Out The Coupon



SEND NO MONEY. Just find out by actual test on your own stock that **my tonic will make money for you.** I have a watch all ready for you if you send that coupon right away. **You can't possibly lose anything—you have everything to gain. Isn't it worth a postage stamp? Do it now—at my risk—fill out the coupon and mail it to me at once.**

E B Marshall
President
WILBUR STOCK FOOD CO.
150 Huron St.
Milwaukee, Wis.

Name_____R.F.D._____

P. O._____State_____

Freight Office_____State_____

I own_____cattle_____horses_____hogs_____sheep

_____poultry. I own_____acres of land. I rent_____acres

of land. I am_____years of age.

620 W.

NOTE:—This liberal offer only open to responsible farmers or stock raisers over 21 years of age.

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